

# PSYCHOLOGICAL ABSTRACTS

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## GENERAL

4337. **Bahnsen, J.** *Realdialektische Nachträge zur Charakterologie und allgemeinen Psychologie.* ("Real-dialectic" supplements to characterology and general psychology.) *Arch. f. d. ges. Psychol.*, 1934, 90, 227-243.—A series of addenda written in 1876, to explain and clarify certain passages of the author's chief work published some ten years earlier.—*E. L. Kelly* (Connecticut State).
4338. **Düker, H.** *Zur Kritik des Gesetzes der speziellen Determination.* (Concerning the criticism of the law of special determination.) *Arch. f. d. ges. Psychol.*, 1933, 89, 659-670.—A reply to a published criticism by Eliasberg, who according to the writer has apparently confused Ach's law of special determination with the law of the difficulty of mental processes. The experimental evidence in support of the former is reviewed.—*E. L. Kelly* (Connecticut State).
4339. **Giese, F.** *La théorie du "champ" en psychologie.* (The "field" theory in psychology.) *J. de psychol.*, 1934, 31, 291-305.—The author discusses the significance of Lewin's field theory for various aspects of psychology. He sees in it a tangential method which has the possibility of effecting a synthesis between functional research and phenomenological research.—*N. L. Munn* (Pittsburgh).
4340. **Goodenough, F. L.** *Developmental psychology.* New York: Appleton-Century, 1934. Pp. xvii + 619. \$3.00.—This is a "first book in psychology," the subject matter being organized to accord with the definition of psychology as "the study of the development of behavior." Various features of sensory, motor, emotional, social, and other aspects of human behavior are considered at successive levels of development: infancy, early childhood, adolescence, maturity, and old age. Rates of growth and learning at different ages, measurement of intelligence, special abilities and defects are given particular attention. There are 27 chapters, among them chapters on: prenatal development; growth and function of sense organs; the behavior of the unborn child; how older children learn; personality and character; motivation of behavior at college level; maturation and decline of abilities; and mental disease. Chapters dealing with the child at birth and with the pre-school years cover, in space, one-third of the book, and present material from experimental studies of this period. Each chapter is prefaced by a series of questions to direct the attention of the student.—*E. F. Kinder* (New York City).
4341. **Graf, O.** *Experimentelle Psychologie und Psychotechnik.* (Experimental psychology and psychological methods.) *Fortsch. Neur. Psychiat. u. Grenzgeb.*, 1934, 6, 177-191.—The author introduces his article with the statement that psychological investigations should become more synthesized, rather than remaining conflicting and chaotic. He then gives a bird's-eye view of the field at present, so that one may see from what the synthesis may be made. He discusses in some detail the typologies of Jaensch and Kretschmer. Other contributions from various fields of psychology are dealt with briefly; these include the Russian reflexology, Gestalt psychology, mental measurement, personality tests and inventories, and many other contributions. In conclusion the author discusses the work of Hornbostel on clearness, a theory which looks upon clearness as a property of all sensation. The author considers this an important attempt in synthesis in psychology.—*D. S. Oberlin* (Newark, Del.).
4342. **Hoisington, L. B., & Wilson, M. O.** *A convenient unit for a variable animal maze.* *J. Genet. Psychol.*, 1934, 44, 246-249.—A wall-unit type of maze material is described, consisting of wood pieces joined at edges with perforated metal strips bolted through, the pieces to be cut in any desired variety of sizes. Advantages are pointed out.—*J. F. Dashiell* (North Carolina).
4343. **Huber, K.** *Erich Becher als Psychologe.* (Erich Becher as a psychologist.) *Arch. f. d. ges. Psychol.*, 1933, 89, 671-693.—An evaluation of Becher's contributions to experimental psychology, to the mind-body problem, and to the question of the scientific character of psychology.—*E. L. Kelly* (Connecticut State).
4344. **Hulin, W. S.** *A short history of psychology.* New York: Holt, 1934. Pp. 189. \$1.00.—The author presents a brief outline of psychological theorizing from ancient times to the present. The book is intended for the elementary student.—*W. S. Hunter* (Clark).
4345. **Jung, G.** *Syneidesis, Conscientia, Bewusstsein.* (Consciousness.) *Arch. f. d. ges. Psychol.*, 1933, 89, 525-540.—An etymological study of the German word *Bewusstsein*. The author goes back to the original Greek and Latin equivalents and traces the various meanings which these related words have had at various times up until the time when *Bewusstsein* was first used as a psychological term by Wolff (1734).—*E. L. Kelly* (Connecticut State).
4346. **Lintvarev, W. S.** *[A portable cephalograph.]* *Sovet. psikhoteh.*, 1932, 5, 59-60.—The author has constructed a portable cephalograph (an apparatus permitting the recording of oscillations of the human body in a standing position) in which the subject is placed under a two-yard measure, and wears a casque on his head surmounted by a rod 18 cm. long. This



rod penetrates a ring fixed to the measure. The ring, as well as the rod, is connected to a circuit including a Morse telegraphic apparatus. When the subject is motionless the metal rod does not touch the ring and the circuit is interrupted. If the subject moves the rod makes contact with the ring, the circuit is closed, and the apparatus marks either a point or a line, according to the length of time of the contact.—(Courtesy *Année psychol.*)

4347. Meisen, V. [Ed.] **Prominent Danish scientists through the ages.** Copenhagen: Levin & Munksgaard, 1932. Pp. 193.—Of special interest to psychologists is the essay dealing with Carl Lange. Lange worked in experimental psychology under Moritz Schiff, who had been exiled from Frankfurt and who was then associated with the University of Florence. After his return home, Lange devoted most of his time to studies in neurophysiology. In 1868 he gave the earliest description of acute bulbar paralysis. He was the first to interpret and explain posterior spinal sclerosis as a secondary degeneration, and gave an account of the pathogenesis of tabes dorsalis (locomotor ataxia) which still holds good. The wide scope of Lange's general interest and knowledge ranged from public hygiene to African history, geography, and anthropology.—V. Coucheron-Jarl (Mooseheart Laboratory for Child Research).

4348. Meyerson, E. **Le savoir et l'univers de la perception immédiate.** (Knowledge and the universe of immediate perception.) *J. de psychol.*, 1934, 31, 177-189.—This is an epistemological essay in which the author stresses the transcendent nature of the data of knowledge. He points out the significance of "the universe of common sense" in science and philosophy.—N. L. Munn (Pittsburgh).

4349. Miles, W. R. **A v-phone for examining auditory impairment.** *Amer. J. Physiol.*, 1934, 109, 74.—Description of apparatus.—C. Landis (N. Y. Psychiatric Institute).

4350. Munn, N. L. **A laboratory manual in general experimental psychology.** Pittsburgh: Univ. Bookstore, 1934. Pp. 114. \$1.75 net.—"The writer's aim has been primarily to acquaint the student who has already had a course in introductory psychology, but little or no laboratory work, with the experimental investigation of the chief problems of behavior." Experiments are classified under the following headings: emotional behavior, experimental esthetics, sensory processes, perceptual processes, attention and discrimination, imagery and association, reaction processes, individual differences, the learning process, experimental social psychology, experiments in animal psychology.—W. S. Hunter (Clark).

4351. Osipov, V. P. [Physiological and pathophysiological experiment.] *Sovet. neuropatol.*, 1933, 2, No. 7, 1-9.—To draw psychological conclusions from the study of men and animals, the study must include all sides of their nature. The pathophysiological method does not secure this point of view. But in solving a concrete problem we can apply one-sided methods and draw the appropriate conclusions. Each time we must decide which factors are the

leading ones, and which are secondary, not forgetting the unitary process as a whole.—A. Yarmolenko (Leningrad).

4352. Rubin, E., Jørgensen, J., Kuhr, V., & Brandt, F. **Harald Høffding in memoriam.** Fire taler holdt paa Københavns Universitet paa Harald Høffdings 89 aars dag 11 Marts 1932. (Harald Høffding in memoriam. Four lectures delivered at the University of Copenhagen on the 89th birthday of H. Høffding, March 11, 1932.) Copenhagen: Gyldendalske Boghandel, 1932. Pp. 113.—This book contains four lectures given at the University of Copenhagen in commemoration of the well-known Danish psychologist and philosopher, Harald Høffding, who died in 1931: Rubin, "Epistemological infinity as a basic motive in Høffding"; Jørgensen, "Høffding's theory of cognition and his conception of the world"; Kuhr, "Harald Høffding as philosopher of life"; and Brandt, "The teacher and the humanist." Besides these four lectures, K. Sandelin offers a chronological bibliography of 393 references to major and minor works by Høffding, as well as an additional bibliography of 425 references to works about him. The book concludes with an author index.—V. Coucheron-Jarl (Mooseheart Laboratory for Child Research).

4353. Schole, H. **Der zwangsläufige Tonkurvenschreiber und seine Verwendungsmöglichkeiten in der tonpsychologische Forschung.** (An automatic device for plotting sound curves, and its applications to problems in the psychology of sound.) *Zsch. f. Psychol.*, 1934, 131, 66-80.—The construction of a device for plotting sound curves is described, and several practical modifications are suggested.—R. B. MacLeod (Swarthmore).

4354. Teagarden, F. M. **The fundamental concepts of psychology which contribute to an understanding of human nature.** *Kadelpian Rev.*, 1934, 13, 293-299.—The fundamental concepts belonging primarily to psychology which enable a better understanding of human nature are: (1) man's original nature contributed by evolution or heredity; (2) the internal organization of the individual, including previous experiences, internal glandular conditions, and immediately preceding stimuli; (3) large individual differences which make individuals quantitatively different, although they are qualitatively alike; (4) the modification of original nature, or learning.—S. H. Newman (Clark).

4355. Wiegner, A. **O istocie zjawisk psychicznych.** (On the nature of mental phenomena.) Poznan: Jachowski, 1933. Pp. 57. 4 zloty (paper).—In view of the insufficiency of the principle of psychophysical parallelism, the theoretically most adequate construction is the hypothesis that in introspection the immediately given mental events are identical with the inner behavior of the organism. Purely intellectual functions (representations) are not immediately given, however, but are theoretical constructs for the explanation of verbal statements.—S. Blachowski (Poznan).



4356. Woodworth, R. S. *Psychology*. (3rd rev. ed.) New York: Holt, 1934. Pp. 546. \$3.35; textbook ed., \$2.50.—The present edition contains more experimental data than did the earlier editions. The sequence of topics is as follows: aims and methods of psychology, individual differences, intelligence, personality, heredity and environment, growth through activity and maturation, the nervous system, learning, memory, motivation, feeling and emotion, the senses, observation, thinking, and imagination.—W. S. Hunter (Clark).

[See also abstracts 4462, 4689.]

#### SENSATION AND PERCEPTION

4357. Arslan, K. *Asimmetria tonica del padiglione auricolare del coniglio in seguito a lesione dell'orecchio medio*. (Tonic asymmetry of the ear-lap of rabbits following lesions of the middle ear.) *Arch. di fisiol.*, 1932, 31, 235-249.—(*Biol. Abst.* VIII: 13504).

4358. Békésy, G. v. *Zur Theorie des Hörens bei der Schallaufnahme durch Knochenleitung*. (On the theory of audition in sound reception by bone conduction.) *Ann. d. Physik*, 1932, 13, 111-136.—The author has compared hearing by means of aerial transmission and by bone conduction of sound, transmitted to the skull through a rod applied at the base of the forehead just above the nose. The method of interference shows that there is no essential difference between aerial conduction and bone conduction, for complete extinction is obtained when the same sound is presented by these two methods, with a time interval of a half-phase, at suitable relative intensities. Regulating the surface and the pressure of application on the forehead he obtained threshold values corresponding to an amplitude of a little more than .001  $\mu$  at 200 d.v., and a little more than .0001  $\mu$  at 800 d.v., values very near the liminal amplitudes by aerial means. When the auditory conduit is stopped the intensity of the sound transmitted by the bone method increases and the thresholds are decreased even below the thresholds of aerial transmission.—(Courtesy *Année psychol.*)

4359. Bernays, A. *Zur Kritik der Farbenharmonien in Ostwalds Farbenfibel*. (A criticism of the color harmonies in Ostwald's Color Primer.) *Arch. f. d. ges. Psychol.*, 1934, 90, 165-166.—Three reasons are given for rejecting Ostwald's theory of color harmony. Not enough is known as yet to permit a systemization of this field.—E. L. Kelly (Connecticut State).

4360. Brecher, G. A. *Die Entstehung und biologische Bedeutung der subjectiven Zeiteinheit—des Momentes*. (The origin and biological significance of the subjective temporal unit: the "moment.") *Zsch. f. vergl. Physiol.*, 1932, 18, 204-243.—The "moment" was obtained for different modalities of human sensitivity by finding for each the rate of stimulus-change at which fusion occurred. For vision, for audition, and for all tactually explored areas of the skin, fusion occurred with a stimulus frequency of 18 per second. Since drugs (cafein, alcohol) increased the "moment" by 1/18-1/12", it

was concluded that its existence must be dependent upon nervous function. Evidence suggested that above the tactual fusion threshold, a vibration is perceived the lower threshold of which is dependent upon the value of the moment, and which differs according to the mechanical structure of the skin. All stimuli shorter in duration than a moment appear to have the same value. Only stimuli which are longer than a moment can be judged on the basis of duration, without the inclusion of intensity in the judgment. Knowing the moments of different animals, it should be possible to make conclusions as to the heterogeneity of their effective environments. The (tactual) moment for the Roman snail was established as one-fourth second; and, stroboscopically determined, the visual moment of the fighting fish was one-thirtieth second.—T. C. Schneirla (New York University).

4361. Davis, H., & Derbyshire, A. J. *The relation of auditory action potentials to the electrical response of the cochlea*. *Amer. J. Physiol.*, 1934, 109, 28.—The sensation of loudness depends upon the total number of active nerve fibers and is independent of the frequencies of the nerve impulses which they carry. Abstract.—C. Landis (N. Y. Psychiatric Institute).

4362. Frey, G. A. *Depression of the activity aroused by a flash of light by applying a second flash immediately afterwards to adjacent areas of the retina*. *Amer. J. Physiol.*, 1934, 108, 701-707.—"In this paper it is shown that the activity aroused by a flash of light may be depressed by applying a second flash immediately afterwards to adjacent areas of the retina. The effect of varying the interval between the two flashes was investigated and it was found that the depressive effect increased as the interval increased, i.e., up to 150  $\sigma$ . The experiment was not carried further for reasons pointed out, but it may be assumed that if the interval is made long enough, the depressive effect must begin to decrease and gradually disappear. The effect of varying the intensity and duration of the flashes was investigated and it was found that a decrease in duration corresponded to a decrease in intensity. Only durations below 4  $\sigma$  were dealt with. The effect of varying the distance apart of the areas stimulated was also investigated, and the results show that the depressive effect gradually dies out as the distance is increased. Varying the wave-length composition of the light does not affect the phenomenon."—C. Landis (N. Y. Psychiatric Institute).

4363. Fröhlich, F., & Monje, M. *Weitere Untersuchungen über die Messung der Empfindungszeit des Ohres*. (New research on the measure of sensation time for hearing.) *Zsch. f. Biol.*, 1931, 92, 233-240.—To refute the objection of Von Hornbostel to a previous measure of the time of auditory latency by Monje (consisting of determining the apparent localization of a moving point followed by the eye when the sound—produced at the moment when the moving object passes a given point—is perceived, the retardation being given by the difference between

the position of production and that of perception) the authors have made new measures. They wished to use a luminous mark of variable intensity, but they were hindered by marks that were too bright. They turned the subject's attention from the mark before the stopping of the eye correlative to sound perception, or had the apparent direction of the moving luminous point designated at the moment of sound without the mark. They always found 35  $\sigma$  of latency with an intense sound.—(Courtesy *Année psychol.*)

4364. Gamisch, E. *Zur Psychologie des Vergleichs.* (On the psychology of comparison.) *Zsch. f. Psychol.*, 1934, 131, 81-144.—Simple comparisons, both simultaneous and successive, involving the sense modalities of vision, hearing and kinesthesia, were made, and detailed analytic reports of the whole process from preparatory signal to final judgment were recorded. Simultaneous comparison was found to be based on a primary, unanalyzable mental act of apprehending relations, which in turn is based on a preparatory set, operating within a configurational schema. Successive comparison was found to involve this primary apprehension of relations, but in some cases the process could not be directly observed and could only be inferred.—R. B. MacLeod (Swarthmore).

4365. Hartline, H. K., & Graham, C. H. The spectral sensitivity of single visual sense cells. *Amer. J. Physiol.*, 1934, 109, 49-50.—The response of the single visual sense cell does not vary qualitatively with the wave length of stimulating light, but by properly adjusting the intensity responses can be obtained which are identical for all the spectral lights used. Abstract.—C. Landis (N. Y. Psychiatric Institute).

4366. Hoagland, H. The physiological control of judgments of duration. *Amer. J. Physiol.*, 1934, 109, 54.—Judgments of short duration vary with the internal body temperature. Abstract.—C. Landis (N. Y. Psychiatric Institute).

4367. Höfler, R. *Über Aussage, Sprache und Einstellung bei Taubstummen.* (Concerning the testimony, language, and attitude of the deaf and dumb.) *Arch. f. d. ges. Psychol.*, 1934, 90, 123-156.—A study of the comparative reliability and objectivity of testimony of deaf and dumb individuals. Immediate reports of events depending primarily on visual observation were markedly inferior to those of normal persons, due to language difficulties and the failure of the deaf and dumb subjects to observe attentively and objectively. Such individuals have a much poorer understanding of language, as indicated by their reproductions of short accounts which they had just read. They are also very apt to give false testimony due to errors in interpreting the gestures and lip movements of others.—E. L. Kelly (Connecticut State).

4368. Horinson, S. *Essai d'application de deux tests de sensibilité tactile.* (Application of two tests of tactile sensitivity.) *Bull. Inst. nat. orient. prof.*, 1932, 4, 25-32.—Two tests of differential tactile sensitivity, for thickness and for roughness, were given to child psychiatric patients. The subject

must, with eyes closed, arrange in order 10 metal coins (thickness 2 mm. 10 to 0 mm. 5) and 8 bands of emery cloth of varying roughness. Results are given by average error in three successive trials. Results for 100 subjects give a satisfactory frequency curve. A comparison of results with school records shows that in the first quartile 18.5% of the subjects show great scholastic retardation, 40.3% in the second and third, and 60% in the last quartile. On the other hand correlation with two tests of manual skill was only .19.—(Courtesy *Année psychol.*)

4369. Ingram, W. R., Ranson, S. W., Hannett, F. I., Zeiss, F. R., & Terwilliger, E. H. Results of stimulation of the tegmentum with the Horsley-Clarke stereotaxic apparatus. *Arch. Neur. & Psychiat.*, 1932, 28, 513-541.—(Biol. Abst. VIII: 13517).

4370. Irwin, F. W., & Fernberger, S. W. *Einige zeitliche Bestimmungen der Urteile in der Methode der einzelnen Reize.* (Some temporal determinations of judgments by the method of single stimuli.) *Arch. f. d. ges. Psychol.*, 1933, 89, 541-548.—Four subjects were presented weights ranging from 88 to 112 grams and asked to judge whether they were light, average or heavy. Reaction times were recorded for each judgment. The results were remarkably similar to those obtained by Kellogg using the method of constants in the optical field. The reaction time curve for each of the three categories was approximately a reflection of the frequency curve; i.e. the time for each type of judgment was roughly inversely proportional to the relative frequency of the judgment for any given weight. Although this tendency was extremely regular, the observed differences were not statistically significant.—E. L. Kelly (Connecticut State).

4371. Kelly, E. L. An experimental attempt to produce artificial chromaesthesia by the technique of the conditioned response. *J. Exper. Psychol.*, 1934, 17, 315-341.—A report of purely negative experimental findings which lead the author to conclude that "it is impossible to produce chromaesthesia in normally non-synaesthetic adult subjects by the technique of the conditioned response."—H. W. Karn (Clark).

4372. Klemm, O. *Die binokulare Zeitparallaxe.* (Temporal binocular parallax.) *Neue psychol. Stud.*, 1932, 6, 357-382.—The author designed an arrangement which translates objectively regulated time differences into stereoscopic effects. Each eye sees a luminous slit, and behind each slit a finger maintains an alternate motion, of regulated speed, with a certain time interval. Under these conditions the thresholds of duration (the distance between the symmetrical positions taken by the two fingers) of temporal binocular parallax reach 3 to 5  $\sigma$  and even 1 to 2  $\sigma$ , using windows six times larger than the first slits. The same values are obtained for a liminal time interval of absolute duration with various speeds of movement. With other arrangements the limit descends to 0.5  $\sigma$ , and the author admits a limit of 0.1  $\sigma$  for this parallax.—(Courtesy *Année psychol.*)

4373. Koehnlein, H. Ueber das absolute Zeitgedächtnis. (Absolute memory of time.) *Zsch. f. Sinnesphysiol.*, 1934, 65, 35-57.—The estimation of time intervals of from  $\frac{1}{4}$  to 60 seconds by unpracticed subjects was found in some cases to entail large errors. Some subjects constantly underestimated, a few constantly overestimated, but most sometimes over- and sometimes underestimated. Practice increased the accuracy of estimation, especially for the longer intervals, but its effects were quickly lost.—F. W. Irwin (Pennsylvania).

4374. Luckiesh, M., & Moss, F. K. A view of the cortical integrational process through liminal visual stimuli. *J. Exper. Psychol.*, 1934, 17, 448-461.—Since details of objects are seldom recognized as a result of the stimulation of a single retinal receptor, the visual sensory process involves some kind of integration of various individual neural stimuli. The primary purpose of the present study was to secure quantitative data pertaining to the character of efficiency of the "cortical" integrational process, as the number of retinal elements involved in seeing a colorless object of a simple geometrical pattern is varied with corresponding changes in the intensity of stimulation by luminous energy. An analysis is developed on the basis of the relative luminous energy requirements for threshold foveal recognition of objects of various areas and brightness-contrasts with their respective backgrounds. Variations in these energy requirements are taken as measures of the efficiency of the cortical integrational process. The findings lead to the conclusions (1) that the efficiency of the cortical integrational process decreases as the area of the stimulus increases, and (2) that the efficiency decreases as the brightness of the visual field increases.—H. W. Karn (Clark).

4375. Mullin, F. J., & Luckhardt, A. B. The effect of alcohol on cutaneous tactile and pain sensitivity. *Amer. J. Physiol.*, 1934, 109, 77-78.—Alcohol caused a distinct decrease in pain sensitivity but had little effect on the sensitiveness to touch. Abstract.—C. Landis (N. Y. Psychiatric Institute).

4376. Niederhoff, P. Ueber das "Staketenphänomen." (The "palisade" phenomenon.) *Zsch. f. Sinnesphysiol.*, 1934, 65, 27-34.—By means of a model the author studied the phenomenon appearing when one looks through two parallel palisade fences. The alternately bright and dark stripes seen under these conditions constitute an illusion which disappears when either palisade is fixated. The character of the movement seen when either the palisade or the observer is in motion is stroboscopic, but depends upon the original stationary illusion. The phenomenon is an instructive example of Gestalt perception.—F. W. Irwin (Pennsylvania).

4377. Nordenson, J. De senaste angreppen mot v. Helmholtz' akkommodationsteori. (The latest attacks on v. Helmholtz' theory of accommodation.) *Hygiea*, 1934, 96, 39-49.—This is a brief description and discussion of v. Pflugk's work concerning accommodation. Summary in German.—V. Coucheron-Jarl (Mooseheart Laboratory for Child Research).

4378. Nordenson, J. Om ögats vridningspunkt och densamma optiska betydelse. (The turning point of the eye and its optical significance.) *Hygiea*, 1934, 96, 113-124.—The article includes a brief historical survey and gives a few new data concerning "der Drehpunkt im Auge." This point is found to be situated on the average 13.5 mm. behind the top of the cornea. Brief summary in German.—V. Coucheron-Jarl (Mooseheart Laboratory for Child Research).

4379. Norris, O. O. The nature of distance vision. *J. Exper. Psychol.*, 1934, 17, 462-476.—Interpretation of the distance aspect of vision has generally been attempted, in the past, on the assumption that it must be done by reference to retinal stimulation alone, as if the eye in some way projected its sensations or images upon its objects or grounds. In the present study experimental findings have been obtained which lead to a contrary interpretation; namely, one based on the fact that distance vision involves an active, physical continuum intervening between the object and the agent, and that both ends or bases of this continuum must be taken into account as physical things.—H. W. Karn (Clark).

4380. Obuchovski, P. M. [The work of deaf mutes in industry.] *Sovr. vrach. gaz.*, 1932, No. 19, 1151-1152.—The use of the labor of mute and deaf mute subjects in noisy situations in industry is quite justified, and in some workshops all the work is done by them. Their training is not difficult, and accidents do not occur oftener, as deaf mutes possess a keen vibration sense.—A. Yarmolenko (Leningrad).

4381. Ohm, J. Optokinetischer Nystagmus und Nystagmographie im Dienste der Hirndiagnostik. (Optokinetic nystagmus and nystagmography in cerebral diagnosis.) *Arch. f. Augenhk.*, 1932, 106, 185-220; 531-554.—The author has developed a technique which can be used for the entire visual field, in diagnosing cases of simulation which are difficult to judge. The image of a black crossbarred window, seen in a glass at 45°, is observed on the surface of a revolving cylinder, where the dimensions, clearness and position can be regulated. The image can appear to the subject without warning. If nystagmus is present, inhibition will prevent the subject from fixating as soon as the image is produced; if the subject is normal, it will not be necessary to request fixation.—(Courtesy *Année psychol.*)

4382. Ohm, J. Ueber die Vermeidung von Irrtümern bei der Begutachtung des Augenzitterns. (On the possibility of avoiding errors in judgment in cases of nystagmus.) *Graefes Arch. f. Ophth.*, 1932, 128, 66-79; 129, 57-75; 76-96.—To study the effect of a fixation point in observing a revolving cylinder, the author placed the image of a window with black crossbars, which is seen in a glass at 45°, exactly on the striated surface observed. This image can appear during observation without warning, and its dimensions, clearness, and position can be modified. The majority of normal subjects fixate it as soon as it is produced, while it is necessary to request fixation with the others. The inhibition of nystagmus may



or may not be complete, and does not always cease with the suppression of the mark. The author applies this technique to pathological cases of errors in judgment due to nystagmus.—(Courtesy *Année psychol.*)

4383. Ortmann, O. **Tone and color.** *Peabody Bull.*, 1934, 30, No. 2, 3-5.—Many fanciful explanations have been given for the existence of associations between tones and colors, but such associations can be easily explained as arising from both physical parallelism and chance associations. A "color music" with elements analogous to melody, harmony, orchestration, thematic development, etc., is sensorially possible and might conceivably become an art at some future date.—L. Petran (Peabody Conservatory).

4384. Pierce, W. O'D. **The selection of colour workers.** *Human Factor*, 1934, 8, 286-290.—A description of a test devised by the National Institute of Industrial Psychology in England to measure the ability (among so-called "color-normal" persons) to detect small differences in color shade or saturation. The test gives a correlation of .69 with other criteria of color discrimination.—M. Horsey (National Institute of Industrial Psychology).

4385. Révész, G. **System der optischen und haptischen Raumtäuschungen.** (A system of optic and haptic space illusions.) *Zsch. f. Psychol.*, 1934, 131, 296-375.—Standard optical illusions were so constructed that they could be presented haptically as well, and a comparison was made of the results from 3 types of presentation: (1) visual; (2) haptic active (movement); (3) haptic passive (touch). Practically all illusions were apprehended clearly in all three ways. Subjects blind from birth responded to haptic illusions without, of course, having had any previous visual training. It is contended that space illusions are not secondary and isolated phenomena, peculiar to one sense modality or another, but are, rather, consequences of the operation of a unitary, common, basic function which underlies all space perception. In the light of this finding, it is suggested, a fresh attack upon the general problem of space perception is warranted.—R. B. MacLeod (Swarthmore).

4386. Rosenbaum, J. **Experimentelle Studien über "die absolute Tiefenlokalisation."** (Experimental studies on "absolute depth localization.") Frankfurt: Naturwiss. Diss., 1929. Pp. 31.—R. R. Willoughby (Clark).

4387. Schiff, H. **Die Erweiterung der Grenzen des Sehraums.** (Expanding the limits of the visual field.) *Arch. f. d. ges. Psychol.*, 1934, 90, 187-226.—Using a perimeter and a white dot as a stimulus, the right boundary of the visual field of the right eye was determined for each of three subjects. Some two hundred simple geometrical forms were exposed at this angle and the subjects were asked to reproduce them. Unknown to the subjects, certain of the forms were exposed at points one-half degree and others at one degree beyond this boundary. After fifteen to twenty hours of testing, it was found that all of the subjects were able to reproduce correctly these

figures which were actually outside the original visual field. It is suggested that the phenomenon is to be explained as resulting from a continuation of the normal process of retinal differentiation.—E. L. Kelly (Connecticut State).

4388. Schneevoigt, W. **Die Wahrnehmung der Zeit bei den verschiedenen Menschentypen.** (The perception of time among different types of individual.) *Zsch. f. Psychol.*, 1934, 131, 217-295.—Earlier experiments by Jaensch and Kretz (*Zsch. f. Psychol.*, 1932, 126) on individual differences in the perception and reproduction of time intervals were continued. It was found that in general the inwardly integrated types tended toward a close correspondence and the outwardly integrated types toward a great discrepancy between stimulus and sensation. Sub-forms of these types showed great individual differences. An extended introspective report is included, indicating the close connection between time and temporal content in the S<sub>1</sub> type.—R. B. MacLeod (Swarthmore).

4389. Schöle, H. **Experimentelle Untersuchungen an höchsten und an kürzesten Tönen.** (Experimental studies of highest and shortest tones.) *Zsch. f. Psychol.*, 1934, 131, 1-65.—Observers were presented with pure tones, ranging between c<sub>1</sub> and c<sub>2</sub>, and were asked to name the various intervals produced and to describe the character of the tones themselves. It was found that at first all observers were musically disoriented, and were unable to make accurate judgments of pitch difference. With practice, however, a coherent musical system was developed, similar to that in the lower ranges. The results of the observations are utilized to support a more or less empiristic doctrine of auditory perception.—R. B. MacLeod (Swarthmore).

4390. Schriever, H., & Gehlert, G. **Fortgesetzte Untersuchungen über das Tasterkennen in der Mundhöhle.** (Continued investigations on touch recognition in the oral cavity.) *Zsch. f. Biol.*, 1933, 93, 478-486.—(*Biol. Abst.* VIII: 13495).

4391. Shalabutov, K. V. [The pathogenesis of optic illusions.] *Sovet. neuropatol.*, 1933, 2, No. 5, 57-61.—Three clinical cases of micropsia, in which the patients have seen objects in a diminished size, are explained by a spasm of accommodation.—A. Yarmolenko (Leningrad).

4392. Shevarev, P. [The noticing and identifying of the simple geometric figures.] *Psikhol.*, 1932, No. 4, 101-117.—A series of experiments made to establish the perceptive criteria and connect the data of physiological optics with the psychological laws.—A. Yarmolenko (Leningrad).

4393. Teräskeli, H. **Untersuchungen über die Amblyopie ohne Spiegelbefund bei schielenden und nichtschielenden Augen mittelst der Flimmermethode.** (Investigations of amblyopia without mirror condition in strabismic and non-strabismic eyes with the flicker method.) Helsingfors: Ophthalmological thesis, 1934.—Thirty years ago Braunstein was the first to study perception of intermittent light. He

tried to determine the fusion frequency, i.e., the frequency at which the intermittent light is seen as a continuum. Adrian and Matthews, and Granit, in Finland, later continued this line of investigation. The present work is that of one of Granit's assistants. The apparatus consisted of a dim glass illuminated by variable light. The light could be made intermittent by rotating a disk with cut-out sections. The speed of the disk was regulated by a rheostat and measured by a tachometer. The fixation point could be changed by a metal disk with different openings placed before the dim glass. The frequency was measured at different limited parts of the retina. 36 subjects with normal eyes and 50 patients with one normal and one amblyopic eye were used. All refraction conditions were included, with a preponderance of hyperopia. In the normal cases, the fusion frequency was highest in the periphery (11% higher than in the center). In the amblyopic eyes, the average frequency in the periphery was only 2.9% higher than in the center. No consistent relation was found between refraction types and fusion frequency. The conclusion is drawn that "the cause of amblyopia is apparently to be sought in a congenital anomaly of the retina."—V. Coucheron-Jarl (Mooseheart Laboratory for Child Research).

4394. Wegel, R. L. Physical data and physiology of excitation of the auditory nerve. *Ann. Otol. Rhinol. & Laryngol.*, 1932, 41, 740-780.—It is found from research by Wegel and others on the absolute auditory threshold that for low frequencies (up to 500 d.v.) the direct stimulus of liminal sensation is the acceleration of movement in each vibratory period. The basilar membrane, being subjected to a series of slow vibrations, would present the same mode of displacement for different vibratory frequencies. Thus the amplitude of its movement would change in proportion to the frequency. Certain considerations of the anatomy of ciliary cells and their arrangement in relation to the nerve endings lead the author to think that it is the extension of the cell at a point on its surface, together with a contraction at another point, which directly excites the neuron. These two points can be compared to the anode and cathode of micro-electrodes and the speed of extension to the amount of electric current.—(Courtesy *Année psychol.*)

4395. Werner, H. L'unité des sens. (The unity of the senses.) *J. de psychol.*, 1934, 31, 190-205.—The author reviews a number of researches which appear to indicate that, underlying the specificity of each of the different sense modalities, is a vital and subjective stratum which is essentially synthetic. Particularly emphasized in this connection are the phenomena of illusions, of synesthesia, and of abnormal states precipitated by drugs such as mescal. It is suggested that the specificity of the sense modalities is genetically derived from "a common sensorium, a general sensibility, bodily, motor, affective." The "intersensorial" basis of perception is stressed as well as its dynamic aspects, involving motor and affective processes.—N. L. Munn (Pittsburgh).

4396. Wikker, J. [A peculiar disturbance of space orientation.] *Sovet. neuropatol.*, 1933, 11, No. 6,

101-103.—A. Yarmolenko (Leningrad).

[See also abstracts 4348, 4349, 4353, 4407, 4416, 4417, 4419, 4438, 4443, 4472, 4486, 4493, 4500, 4513, 4528, 4535, 4536, 4543, 4545, 4557, 4716, 4792, 4823, 4824.]

## FEELING AND EMOTION

4397. Katz, H. L., & Nice, L. B. The number of reticulocytes in the blood of emotionally excited rabbits. *Amer. J. Physiol.*, 1934, 109, 60-61.—The number of reticulocytes in the blood is increased by emotional excitement. Abstract.—C. Landis (N. Y. Psychiatric Institute).

4398. Nice, L. B., & Katz, H. L. The distribution of white blood cells in the peripheral circulation of emotionally excited rabbits. *Amer. J. Physiol.*, 1934, 109, 80-81.—The results indicate that emotional excitement is associated with a definite redistribution of the white blood cells accompanying the vaso-constriction of excitement. Abstract.—C. Landis (N. Y. Psychiatric Institute).

4399. Pratt, C. C. Aesthetische Gemütsbewegungen. (Esthetic emotions.) *Zsch. f. Psychol.*, 1934, 131, 376-381.—Esthetic emotions may not properly be considered as emotions in the accepted sense of the term, but are rather objective phenomenal structures which merely bear a resemblance to emotions.—R. B. MacLeod (Swarthmore).

[See also abstract 4466.]

## ATTENTION, MEMORY AND THOUGHT

4400. Anderson, I., & Crosland, H. R. The effects of combinations of handedness and eyedness on letter-position, "range of attention," scores. *Univ. Oregon Publ.*, 1934, 4, No. 7. Pp. 48.—The purpose of the study was to determine what would be the effects on range of attention scores of various combinations of eyedness and handedness. The S's were 120 individuals, 30 representing each of the 4 possible combinations of eye and hand preference. The material presented and the exposure methods employed have been described in earlier reports. Under the conditions of left printing only small differences occurred between the various groups of S's. In the case of center and right prints, however, the left-handed left-eyed S's tended to excel, especially in the right field, right-handed right-eyed S's making the lowest scores. The results were essentially the same when the order of reporting the letters on the exposure card was varied.—H. L. Koch (Chicago).

4401. Harter, R. S. A study of individual differences in association capacity. *J. Genet. Psychol.*, 1934, 44, 139-153.—Repetitions of a digit-letter substitution test were used as learning material with 247 men and women subjects. Instead of a cancellation of individual differences due to practice there was maintenance of them throughout. Slower performers were as capable in retaining the code as were the faster. The girls were far superior to the boys. In this learning the process of constriction (short-circuiting) is important. The results are taken to support Snoddy's theory of learning as a matter of

the capacity of neuromuscular patterns to endure stimulation.—*J. F. Dashiell* (North Carolina).

4402. **Kiessling, A.** *Ueber Grundlagen und Bedeutung einer differentiellen Fehlerkunde.* (The bases and significance of a differential science of errors.) *Zsch. f. Psychol.*, 1934, 131, 388-393.—The differential study of errors concerns itself with the determination of typical errors, characteristic of specific types of performance, of the distribution of errors in different performances, and of the total "error picture" of specific individuals. Such problems as those of sex difference, the relationship between errors and stage of individual development, etc., receive special consideration.—*R. B. MacLeod* (Swarthmore).

4403. **Librachowa, M.** *Struktura wyobrazen jednostkowych odtworczych i wyobrazen rodzajowych.* (The structure of representations.) *Kwart. Psychol.*, 1934, 5, 59-125.—30 normal subjects and 20 blind subjects were presented with various types of stimulus words (of known objects, abstract terms, imaginative objects and nonsense terms) and were asked to describe their phenomenal experiences aroused by these stimuli. The protocols revealed the complexity and dynamism of the structures of experience and the great predominance of visual imagery among the seeing subjects.—*T. M. Abel* (Sarah Lawrence).

4404. **Lopes, B. L.** *A atenção concentrada explorada pelo test de cancelamento.* (Concentrated attention studied by the cancelling test.) *Arch. brasil. de hygiene ment.*, 1932, 5, 40-62.—The test of Toulouse-Piéron, crossing out three of the signs in a table of 1,600 signs, was used with 76 adult subjects. The relation between speed and relative accuracy was determined. Efficiency was calculated by a Whipple formula dividing the total index of accuracy (multiplied by 1000) by the total time. The results are given in frequency curves and tables of quartiles. The correlation between speed and accuracy is shown to be negative (-.269) but slight. Efficiency as determined here is greatly influenced by speed, so that it does not give a satisfactory unified evaluation.—(Courtesy *Année psychol.*)

4405. **Maller, J. B., & Elkin, J.** *Attention test for the measurement of perseveration.* New York: Teachers College, Columbia University, 1934.—The test is designed to measure "the tendency of mental processes to lag." The basal speed of work with simple material (one-place addition, drawing lines, etc.) is compared with performance where a shift according to a fixed pattern, doing the opposite, and rapid shifts from same to opposite are required. Ratio between initial and final scores (perseveration quotient or PQ) correlated practically zero with initial speed scores. For 66 cases the correlation between IQ and PQ was .008. Differences in perseveration have significant relations to personality. Discussion of reliability, validity, intercorrelations among subtests and correlations with other factors are to be published.—*E. F. Kinder* (New York).

4406. **Ostrowski, W. J.** *Wyobrażenia ejdetyczna Stanisława Wyspiańskiego.* (The eidetic imagery of Stanislaus Wyspiński.) Warsaw: Dom Książki

Polskiej, 1934. Pp. 96. 4 zloty (paper).—The eidetic imagery of Stanislaus Wyspiński, Polish poet and artist, is described and classified in the integrative type of Jaensch.—*S. Blachowski* (Poznan).

4407. **Schilder, P.** *Experiments on imagination, after-images and hallucinations.* *Amer. J. Psychiat.*, 1933, 13, 597-611.—After some experiments giving introspective reports on imagination, after-images, and hallucinations, the author concludes: "Imagination, hallucination, perception follow the same laws. All of them can be influenced by the somatic agent of vestibular irritation. The hallucination brings those parts of the imagination and perception to the foreground which remain in the psychic background of the normal person. But also the organic change in the central nervous system has the same effect. Shortening of the sensual perception in normals provokes again phenomena which are similar to the background experiences of the normal, to the hallucination and to the changed perception in organic lesions of the brain." The author emphasizes that these experiences are not identical and that "they have a different meaning for the whole personality and the attitude of the personality toward them is accordingly different. The state of mind and the consciousness are different and the emotional life imbues the matter of the perceptual experience according to the various needs of the personality." Discussion of the paper by A. Myerson and reply by Schilder.—*N. Goldman* (Boston Psychopathic Hospital).

[See also abstracts 4367, 4463, 4590, 4595, 4678, 4690, 4703.]

## NERVOUS SYSTEM

4408. **Bacq, Z. M.** *Le transport humoral des excitations nerveuses.* (The humoral conduction of nerve excitations.) *Ann. physiol. et physico-chim. biol.*, 1932, 8, 917-936.—(*Biol. Abst.* VIII: 13505).

4409. **Fulton, J. F., Kennard, M. A., & Watts, J. W.** *Autonomic representation in the cerebral cortex.* *Amer. J. Physiol.*, 1934, 109, 37.—The motor representation of the autonomic system lies in the premotor area. Stimulation of this region gives rise to a wide variety of visceral activity. Abstract.—*C. Landis* (N. Y. Psychiatric Institute).

4410. **Gerard, R. W., Marshall, W. H., & Saul, L. J.** *Brain action potentials.* *Amer. J. Physiol.*, 1934, 109, 38-39.—The action potentials of the brain of man have been studied. Abstract.—*C. Landis* (N. Y. Psychiatric Institute).

4411. **Helson, H.** *The part played by the sympathetic system as an afferent mechanism in the region of the trigeminus.* *Brain*, 1932, 55, 114-121.—(*Biol. Abst.* VIII: 13513).

4412. **Hill, A. V., Fenn, W. O., Gerard, R. W., & Gasser, H. S.** *Physical and chemical changes in nerve during activity.* Lancaster: Science Press, 1934. Pp. 29. \$.50.—The experimental developments of recent years in the fields of heat production, respiration, chemical activity and electrical effects



of nerve are treated by the authors in the order listed.  
—C. H. Graham (Clark).

4413. Hoff, H. E., Hoff, E. C., Bucy, P. C., & Pi-Suñer, J. The production of the silent period by the synchronization of discharge of motor neurones. *Amer. J. Physiol.*, 1934, 109, 123-132.—"All phenomena associated with the silent period are accounted for on the basis of the 'resetting' of the rhythmic discharge of the neurones taking part in the stretch reflex by their synchronous discharge in the tendon jerk. The subsidence of afferent flow resulting from the release of tension of 'in parallel' sense organs is not the chief mechanism for production of the silent period of the tendon tap. Neither autogenous inhibition from the tendon jerk, nor direct inhibition from the tap itself can be demonstrated as the cause of the 'silent period' following the knee-jerk."—C. Landis (N. Y. Psychiatric Institute).

4414. Ingram, W. R., Fisher, C., & Barris, R. W. Effects of lesions in the hypothalamus in cats. *Amer. J. Physiol.*, 1934, 109, 57-58.—The effects of these lesions upon physiological function and general behavior have been studied. Abstract.—C. Landis (N. Y. Psychiatric Institute).

4415. Ingram, W. R., & Ranson, S. W. Effects of lesions in the red nuclei in cats. *Arch. Neur. & Psychiat.*, 1932, 28, 483-512.—(*Biol. Abst.* VIII: 13516).

4416. Jelsma, F., Spurling, R. G., & Freeman, E. Absence of occipital lobe of brain (porencephaly) with essentially normal vision. *Arch. Neur. & Psychiat.*, 1932, 28, 160-167.—The neurological report of a case described by Freeman in the *Amer. J. Psychol.* (see V: 4074).—D. G. Marquis (Yale).

4417. Kornmüller, A. E. Architektonische Lokalisation bioelektrischer Erscheinungen auf der Grosshirnrinde. I. Mitteilung: Untersuchungen am Kaninchen bei Augenbelichtung. (Architectonic localization of bioelectric phenomena in the cerebral cortex. I. Experiments on ocular stimulation in rabbits.) *J. f. Psychol. u. Neur.*, 1932, 44, 447-459.—Sharply localized action currents resulting from ocular illumination were recorded from the cortex of the rabbit. Subsequent histological examination of the brains showed that the characteristic electrical changes were found only when the electrode was on the area striata. Qualitatively different potential changes were sometimes found in other cortical areas.—D. G. Marquis (Yale).

4418. Kornmüller, A. E. Die Ableitung bioelektrischer Effekte architektonischer Rinderfelder vom uneröffneten Schädel. (The conduction of bioelectric effects from architectonic cortical areas in the intact cranium.) *J. f. Psychol. u. Neur.*, 1933, 45, 172-184.—(*Biol. Abst.* VIII: 13518).

4419. Kredel, F. E., & Evans, J. P. Recovery of sensation in denervated pedicle and free skin grafts. *Arch. Neur. & Psychiat.*, 1933, 29, 1203-1221.—Temporal dissociation of pain, touch, and temperature was demonstrated in the recovery of sensation in areas of transplanted skin in clinical patients, but

the order of return was not the same as that observed by Head following nerve section. Pain sensation invariably recovered first, while touch was second and temperature discrimination last. In only two of twelve cases did the early recovery of pain sensitivity suggest Head's protopathic pain.—D. G. Marquis (Yale).

4420. Kuvatov, G. [The study of the blood morphology changes of a dog when excluding the central autonomic innervation.] *Sovet. neuropatol.*, 1933, 2, No. 5, 98-100.—A. Yarmolenko (Leningrad).

4421. Langworthy, O. R. Development of behavior patterns and myelination of tracts in the nervous system. *Arch. Neur. & Psychiat.*, 1932, 28, 1365-1382.—The order of myelination of nervous pathways is approximately the same for the opossum, cat, and man, and corresponds to the order in which they develop phylogenetically. There is not sufficient proof that the deposit of myelin is coincident with the development of function in the neuron.—D. G. Marquis (Yale).

4422. Lyman, R. S., Kupalov, P. S., & Scholz, W. Effect of roentgen rays on the central nervous system. Results of large doses on the brains of adult dogs. *Arch. Neur. & Psychiat.*, 1933, 29, 56-87.—In four dogs the occipital region of the head was exposed to high dosage of roentgen rays (18 to 20 erythema doses) and the effect on conditioned reflexes studied (experiments carried out in Pavlov's laboratories). The immediate effect, lasting from one to three weeks after exposure, varied in the dogs according to their "physiologic type." From the second to the twelfth week or longer, the conditioned and unconditioned reflexes were always depressed, but recovered normal strength eventually. The lowering of cortical excitability is interpreted as secondary to the changes in blood supply resulting from the pathological damage to capillaries and arterioles.—D. G. Marquis (Yale).

4423. Malamud, W., Lindemann, E., & Jasper, H. H. Effects of alcohol on the chronaxia of the motor system. *Arch. Neur. & Psychiat.*, 1933, 29, 790-807.—Chronaxy changes were followed in nine adult male subjects after ingestion of 200 cc. of 25% alcohol solution. In cases which showed pronounced coordination disturbances, the normal flexor-extensor chronaxy relationship changed, with a tendency toward equalization or even reversal. Comparison is drawn with the similar effect resulting from surgical isolation of the higher neural centers.—D. G. Marquis (Yale).

4424. Miller, A. R. A failure to confirm Pavlov's hypothesis of external inhibition. *Amer. J. Physiol.*, 1934, 108, 608-612.—"The aim of this investigation was to reproduce as faithfully as possible Pavlov's technique for the establishment of conditioned salivary reflexes. In general, the findings of Pavlov and his colleagues have been verified with one important exception. One of the building stones of his complex structure of theory to account for cerebral activity is the phenomenon of external inhibition. With every expectation of easily verifying this phenomenon we have signally failed to demonstrate its

uniform occurrence. In making this statement the intention is not to question the trustworthiness of Pavlov's results but to emphasize again the importance of repeated verification of experiments in this most complex field of physiological endeavor as a means of disclosing unsuspected factors responsible for variable results."—C. Landis (N. Y. Psychiatric Institute).

4425. Mitolo, M. Le variazioni del contenuto in glicogeno del sistema nervoso centrale, durante l'attività riflessa. (Changes in the glycogen content of the central nervous system during reflex activity.) *Arch. di fisiol.*, 1931, 30, 93-109.—(*Biol. Abst.* VIII: 13526).

4426. Partridge, R. C. Afferent impulses in the vagus nerve. *J. Cell. & Comp. Physiol.*, 1933, 2, 367-380.—(*Biol. Abst.* VIII: 13530).

4427. Pines, L. Problema borozd u esvilin mozga. (The problem of the convolutions and sulci of the brain.) Leningrad: Gosudarstvennii Inst. po Izu-cheniyu Mozga, 1934. Pp. 238. 6.50 rub.—This second volume is devoted to the macroscopical anatomy of the convolutions and sulci of the brain. The study investigates evolutionary, hereditary, familial, individual and typical characteristics of the convolutions and sulci of the brain. It is concerned also with the relationships of the convolutions and sulci to each other. Comparative anatomy as well as general biological considerations are equally considered in this study. It also embraces the angio-, cyto- and myeloarchitectonics of the cortex. One of the articles is a study of the brain of the academician V. M. Bekhterev.—I. M. Altshuler (Detroit, Mich.)

4428. Pines, L. Problema borozd u esvilin mozga. (The problem of the convolutions and sulci of the brain.) In Pines, L. *Problema borozd u esvilin mozga*, 1934, 2, 5-12.—The development of the convolutions and sulci of the brain depends upon somatic, mechanical, phylogenetic, ontogenetic and a series of functional conditions. The surface of the brain and its development also depend upon morphological factors, viz., the size and volume of the brain, the size of the whole body, the skull, the coverings of the brain, histogenesis of the cortex, cytoarchitectonics, etc. The formation of the brain also depends upon hereditary and individual factors. Race, nutrition and sex are of some value in such studies. There is no correlation between the form of convolutions and sulci and intellect and genius. Doubtless rough morphological differences of the convolutions and sulci express a more subtle structural and functional fabric.—I. M. Altshuler (Detroit, Mich.)

4429. Ranson, S. W., Kabat, H., & Magoun, H. W. Autonomic reactions induced by electrical stimulation of the hypothalamus. *Amer. J. Physiol.*, 1934, 109, 85-86.—Abstract.—C. Landis (N. Y. Psychiatric Institute).

4430. Rizzolo, A. Importanza del sistema piramidale nel ritorno della motilità nell'arto dopo emisezione del midollo spinale. (Role of the pyramidal system in the return of motility in a limb after

cord hemisection.) *Arch. di fisiol.*, 1931, 29, 586-608.—(*Biol. Abst.* VIII: 13532).

4431. Sepp, E. K. [Essays on the evolution of the nervous system.] *Sovet. neuropatol.*, 1932, No. 7, 31-41.—This essay gives the history of the evolution of the medulla, analyzed from the phylogenetic point of view, in connection with the evolution of the receptors and vagus system.—A. Yarmolenko (Leningrad).

4432. Simpson, H. N., & Derbyshire, A. J. Electrical activity of the motor cortex during cerebral anemia. *Amer. J. Physiol.*, 1934, 109, 99.—The spasms associated with anemia are probably release phenomena appearing when the cortex becomes inactive. Abstract.—C. Landis (N. Y. Psychiatric Institute).

4433. Travis, L. E., & Dorsey, J. M. Action current studies of simultaneously active disparate fields of the central nervous system of the rat. *Arch. Neur. & Psychiat.*, 1932, 28, 331-338.—Oscillographic recording from the cortex of the rat during voluntary movement revealed synchronous, isomorphic action currents in homologous fields of the two hemispheres, and asynchronous action currents in heterologous fields of the same or both hemispheres. Section of the corpus callosum did not disturb the synchronism.—D. G. Marquis (Yale).

[See also abstracts 4434, 4447, 4450, 4470, 4495, 4504, 4505, 4507, 4508, 4510, 4517, 4520, 4522, 4537, 4541, 4601, 4602.]

#### MOTOR PHENOMENA AND ACTION

4434. Babsky, E. B. Zur Frage der Irradiation und Konzentration des Erregungsprozesses im Zentralnervensystem. Beitrag zum Studium der bedingten Bewegungsreflexe. (Irradiation and concentration of excitation in the central nervous system. A contribution to the study of the conditioned motor reflex.) *J. f. Psychol. u. Neur.*, 1932, 44, 429-446.—Conditioned foreleg withdrawal was established in dogs by a method which allowed the dog to escape the unconditioned electrical stimulus by responding correctly to the conditioned stimulus. Special attention was directed toward the analysis of the laws governing the occurrence of "spontaneous" withdrawal movements in the intervals between stimulations. These movements first occur at the same time that the generalized motor reaction subsides and the conditioned reflex appears, and only slowly and gradually decrease in frequency until when a stable differentiation is acquired they are absent or very infrequent. They are interpreted as the result of irradiation of cortical excitation which becomes concentrated with the establishment of the differential inhibition. Any disturbance of the differentiation results in the reappearance of the spontaneous movements.—D. G. Marquis (Yale).

4435. Bednara, H. K. Welche Rolle spielt die psychische Erregung bei den Puls- und Blutdruckveränderungen nach Injektion von Novokain-Suprarenin- und Novokain-Corbasil-Lösungen? (What

part does psychic excitation play in alterations of pulse rate and blood pressure after injection of novocain-suprarenin and novocain-corbasil solutions?) Breslau: Hochschul-Verl., 1933. Pp. 26.—R. R. Willoughby (Clark).

4436. Borovski, V. M. [Further evolution of the adaptive economy principle.] *Psikhol.*, 1932, No. 4, 77-89.—The principle of adaptive economy explains many experiments with the extinction of conditioned reflexes. The higher the animal is placed in the scale of evolution, the more strongly the principle of adaptive economy is expressed in its behavior.—A. Yarmolenko (Leningrad).

4437. Bozler, E. The variation of electrical resistance of muscle during contraction. *Amer. J. Physiol.*, 1934, 109, 14.—The resistance change follows quite closely the change in tension. Abstract.—C. Landis (N. Y. Psychiatric Institute).

4438. Duncan, B. K. A comparative study of finger maze learning by blind and sighted subjects. *J. Genet. Psychol.*, 1934, 44, 69-95.—Miles' high-relief finger maze was used with 59 blind subjects and 30 sighted (with whom 30 of the blind were matched). No striking differences between blind and sighted groups were shown by any of the learning criteria applied (trials, errors, total time, average time); though some difference in the progress of learning appeared in that the blind found the problem more difficult at first and easier some trials later. Present degree of visual defect was only slightly related to learning capacity, but the vision history was of some importance in that those who had had perfect vision but were now blind were most successful. As for the method of learning as gathered from introspective reports, the verbal method was employed by about half the individuals in both groups with visual imagery running second, verbal-visual third, and kinesthetic fourth. Many of the totally blind failed to draw square corners, when making a free-hand drawing of the true path, the drawn path appearing as a continuous curve; but so also did two sighted subjects, one of whom was the poorest learner of both groups.—J. F. Dashiell (North Carolina).

4439. Dworkin, S. Conditioned motor reflexes in cats. *Amer. J. Physiol.*, 1934, 109, 31.—Abstract.—C. Landis (N. Y. Psychiatric Institute).

4440. Dybowski, M. Testy do badania typów woli. (Tests of volitional types.) *Psychotechnika*, 1933, 7, 31-44; 83-97.—A description of a so-called "ladder test" which investigates hesitation shown by a subject in response to given directions. The author claims that in various volitional types (phlegmatic, sanguine, choleric, melancholic) there appear corresponding types of hesitation. The diagnostic value of this test in comparison with a questionnaire shows a positive correlation of .95. Self-observations of the subjects are included. The author differentiates between innate perseveration and perseveration of the will or constancy of character. The test, he claims, measures only the second.—H. J. Wegrocki (Warsaw).

4441. Flachsbarth-Kraft, F. Kritische Bemerkungen zur Arbeit von Korniloff, "Dynamometrische Methode

der Untersuchung der Reaktionen." (Critical remarks on Korniloff's research, "The dynamometric method for the study of reactions.") *Arch. f. d. ges. Psychol.*, 1934, 90, 109-122.—Korniloff's technique and his published findings concerning the relationship between the spread and the strength of reactions are reviewed. Certain improvements in the technique were made and a new series of data collected on 5 subjects. In general, a lengthening of the reaction time was found to accompany a reduction in the amplitude of movement, although subjects with marked motor dispositions do not conform to this tendency. Certain discrepancies between these results and those of Korniloff are pointed out. Korniloff's formulation of an inverse relationship between reaction time and energy consumption holds in general but there are many exceptions.—E. L. Kelly (Connecticut State).

4442. Gesell, R., & Moyer, C. Is breathing fundamentally a reflex phenomenon? *Amer. J. Physiol.*, 1934, 109, 39-40.—The reflex control of breathing is of great importance, though chemical changes probably modify this form of control. Abstract.—C. Landis (N. Y. Psychiatric Institute).

4443. Gundlach, R. H. The speed of pupillary contraction in response to light in pigeons, cats, and humans. *J. Genet. Psychol.*, 1934, 44, 250-253.—The eyes of various subjects were photographed on motion-picture film for over a second after being subjected to two 100-watt lamps, and the horizontal widths of the pupils as shown on the successive frames were measured. A graph presents separate curves for the three types of eyes, the pigeons showing almost complete contraction before the human iris starts to change—in .06 to .12 seconds. The rate of change in the cat is midway between pigeon and human, and is irregular.—J. F. Dashiell (North Carolina).

4444. Haggard, H. W., & Greenberg, L. A. The respiratory quotient as a guide to meal-time intervals. *Amer. J. Physiol.*, 1934, 109, 46.—The respiratory quotient was found to be closely allied with the sensation of hunger. Abstract.—C. Landis (N. Y. Psychiatric Institute).

4445. Heymans, C., Bouckaert, J., Euler, V. S., & Dautrebande, L. Sinus carotidien et réflexes vasomoteurs. Au sujet de la sensibilité réflexogène vasomotrice des vaisseaux artériels aux excitants chimiques. (The carotid sinus and vasomotor reflexes. On the reflexogenous vasomotor sensitivity of the arterial vessels to chemical stimulants.) *Arch. int. de pharmacodynamie*, 1932, 63, 86-110.—A respiratory reaction is produced when weak solutions of various chemicals, or CO<sub>2</sub>, are injected in the circulatory current of the common carotid. When the sinus is innervated in a section beyond the carotid ganglion, there is no effect. In the arterial plexus of the femoral artery, and in the general circulation, reactions are obtained only by the introduction of very strong, sometimes harmful doses. The seat of this reflexogenous chemical sensitivity is thus located in the carotid ganglion at the level of the carotid bifurcation.—(Courtesy *Année psychol.*)



4446. Hill, L. B. A quarter century of delayed recall. *J. Genet. Psychol.*, 1934, 44, 231-238.—After 25 years, during which the author had had practically no practice, he relearned typewriting under conditions as nearly identical with the original learning as could be desired. The curve of relearning showed throughout a higher level of proficiency, more pronounced fluctuations, more rapid rise, and absence of the original plateau effect. Introspective notes revealed similar fluctuations of interest.—*J. F. Dashiell* (North Carolina).
4447. Hinsey, J. C., & Cutting, C. C. The Sherrington phenomenon. IV. A study of some of its possible antagonists. V. Nervous pathways. *Amer. J. Physiol.*, 1933, 105, 525-534; 535-546.—(*Biol. Abst.* VIII: 13515).
4448. Jacobson, E. Electrical measurements concerning muscular contraction (tonus) and the cultivation of relaxation in man—relaxation-times of individuals. *Amer. J. Physiol.*, 1934, 108, 573-580.—“Of 14 students not trained to relax, 13 fail upon signal to relax the forearm flexors, following flexion, within 1.0 second. At this interval, on the average,  $V_m$  (microvoltage) has fallen about 3.0 microvolts. In some instances failure to relax is prolonged for several minutes or more. Prolonged relaxation may be linear in its progress. Frequently the students fail to maintain complete relaxation while awaiting the signal to bend the arm. Certain patients are selected for test who before training to relax exhibit very marked restlessness as judged by clinical observation and as confirmed by electrical measurements of prolonged rest, showing relatively high microvoltages. These patients before training exhibit failure to relax upon signal much more striking than any of the students tested, with one possible exception. Certain other patients definitely neurotic or hypertense at times, according to clinical observation, nevertheless give curves like those of some of the students. After training, the patients all relax while awaiting the signal and they relax more promptly and completely as a rule than do the untrained students ( $V_m = 1.5 \mu v$  at the end of a second). (No practise at relaxing upon signal was included in the course of training.) This affords further confirmation of the finding that relaxation can be cultivated in man. Similar confirmatory evidence of shortened relaxation times in the trained is found upon testing the slight muscular contractions characterizing certain mental activities.”—*C. Landis* (N. Y. Psychiatric Institute).
4449. Kleitman, N., & Titelbaum, S. The effects of thyroid administration upon motor conditioned reflexes in dogs. *Amer. J. Physiol.*, 1934, 109, 64.—The feeding of thyroid increased the per cent of correct responses to the positive conditioned stimulus. Abstract.—*C. Landis* (N. Y. Psychiatric Institute).
4450. Kononov, N., & Novorassov, A. [The grasping reflex.] *Soviet. neuropatol.*, 1933, 2, No. 6, 1-19.—Pathological clinical data show that the substrata of complex motor hand movements, inhibiting reflex activity, are the posterior areas of the two higher frontal sinuses. Their lesion in man provokes the disintegration of complex motor patterns of the hand and the return to the previous phases. The grasping reflex is a symptom of a local lesion of the precentral cortex in most clinical cases.—*A. Yarmolenko* (Leningrad).
4451. Lanier, L. H. The interrelations of speed of reaction measurements. *J. Exper. Psychol.*, 1934, 17, 371-399.—Experimental findings are presented which indicate that speed is not conditioned uniformly in all activities by some unitary factor or set of factors. Correlations between speed measurements tended to be high when the postural preparation and the types of motor activity involved were similar. Correlations decreased practically to zero where the processes correlated were strikingly unlike with respect to these two major conditions. The results lead the author to conclude that such expressions as “relation of speed to mental ability” have no meaning. It is necessary to specify what sort of speed is meant, since different types of speed variables have little in common.—*H. W. Karn* (Clark).
4452. Lazarev, P. P. O teorii sudorog pri vysokikh temperaturakh. (Theory of cramps caused by high temperatures.) *Dokl. Akad. Nauk, Ser. A*, 1932, No. 11, 267-268.—In the Urals, men working at high temperatures frequently have cramps, which the author attributes to the depressing effect of heat on the brain centers; this releases and heightens the reflex activity. Another factor contributing to the frequency of cramps is the presence of endemic goiter, which tends further to heighten the reflexes.—(*Biol. Abst.* VIII: 13520).
4453. Lindberg, A. Über negative bedingte Reflexe, die durch Zusammenfallen mit der Hemmphase der verspätenden bedingten Reflexe gebildet werden. (Negative conditioned reflexes established by reinforcement with the inhibitory phase of the delayed conditioned reflex.) *J. f. Psychol. u. Neur.*, 1932, 44, 122-137.—A negative conditioned reflex was established by presenting a previously indifferent stimulus during the inhibitory phase of a delayed conditioned reflex; i.e., the first 30 seconds of the 90-second delay period. Tested in conjunction with a positive conditioned reflex this stimulus was found to have acquired inhibitory properties. Negative conditioned reflexes, therefore, can be established by the coincidence of a stimulus with the state of internal inhibition in any of its forms; extinction, differentiation, or delay. There are no qualitative differences between negative reflexes thus formed but only quantitative differences in speed of formation and strength of inhibition.—*D. G. Marquis* (Yale).
4454. Lindsley, D. B. Inhibition as an accompaniment of the knee-jerk. *Amer. J. Physiol.*, 1934, 109, 181-191.—“When single motor unit responses are recorded from the muscles of the quadriceps group of a human subject (voluntary extension) or the decerebrate cat (stretch reflex) we find that subsequent to elicitation of the knee jerk the rhythmic cycle is delayed for a period of from 20 to 40  $\sigma$ ,

occasionally as much as 60  $\sigma$ . This period of delay has been interpreted as an inhibitory interval. Not all motor units are discharged in the jerk response, but whether they are or not, they are similarly delayed in their subsequent response. Following the period of inhibition each unit resumes its rhythmic response at an accelerated rate, but gradually returns to its original rate before the jerk occurred. The inhibitory interval extends to muscles of related function although they are not actually involved in the jerk response. When the number of units composing the background response is large the 'silent period' is an approximate measure of the inhibitory interval."—C. Landis (N. Y. Psychiatric Institute).

4455. Luhan, J. A. Some postural reflexes in man. *Arch. Neur. & Psychiat.*, 1932, 28, 649-660.—(*Biol. Abst.* VIII: 13523).

4456. Lumley, F. H. Anticipation and erroneous responses. *J. Exper. Psychol.*, 1934, 17, 48-64.—In previous papers by the same author errors made in serial learning were analyzed and found to be anticipatory. The errors for whole groups of subjects were put together and the anticipatory relationships determined with reference to these combined errors. In the present paper additional evidence is presented which shows that the anticipatory type of error occurs in individual cases as well as in the massed data for a group of subjects. The errors analyzed were made by human subjects learning finger mazes. Supplementary investigations revealed numerous examples of anticipation in the everyday experiences of people, and in types of experiment which were not primarily psychological.—H. W. Karn (Clark).

4457. Marinesco, G., & Kreindler, A. Des réflexes conditionnels. II. Rapports des réflexes conditionnels avec l'évolution biologique du névraxe et des endocrines. (Conditioned reflexes. II. The relation of conditioned reflexes to the biological evolution of the nervous system and the endocrines.) *J. de psychol.*, 1934, 31, 206-272.—This paper has two main divisions. One of these, dealing with the morphology of the brain and its relation to conditioned reflexes, concerns histology, the structural basis of behaviorism, the relation of chronaxy to the development of conditioned reflexes, and the principle of neurobiotaxis. The other deals with the chief phenomena of conditioning and with speculations concerning the relation between these phenomena and the function of the synapse, chronaxy, and the endocrines. The paper is, for the most part, a collation of the findings and conclusions of Cajal, Tilney, Lapique, Flechsig, Coghill, Gonzalez, Langworthy, Lashley, Kappers, Child, and others. The authors conclude that "There exists a certain parallelism between dynamic cortical phenomena, as they have been described and studied by Pavlov by means of the method of conditioned reflexes, and the modifications of cortical excitability which we observe in certain experimental conditions which, if they are not identical, are nevertheless quite analogous with the conditions of Pavlov's experiments. However, it is at present difficult to ascertain whether it is these

modifications of excitability themselves which express the dynamic cerebral phenomena which produce them, or whether it is a question of two parallel phenomena." It is at least certain, according to the authors, that the dynamic properties of the cortex and the phenomena of conditioning are in some way related.—N. L. Munn (Pittsburgh).

4458. Miles, W. R., & Behanan, K. T. A metabolic study of three unusual learned breathing patterns practiced in the cult of Yoga. *Amer. J. Physiol.*, 1934, 109, 74-75.—These patterns were found to involve periods of very rapid shallow respiration, the repeated use of full vital capacity, and long periods of breath holding. Abstract.—C. Landis (N. Y. Psychiatric Institute).

4459. Mirolubov, N. G. [The question of the mechanism of formation of a conditioned reflex to the signs of an object.] *Sovet. psikhonevr.*, 1932, No. 6, 46-62.—Each sign (quality) of an object can become the stimulus of a conditioned reflex and maintain its reflexogenous strength in each combination of components. This stimulus must be stronger physiologically than other components, i.e., be a dominant, in order to maintain its reflexogenous strength.—A. Yarmolenko (Leningrad).

4460. Muenzinger, K. F. Motivation in learning. II. The function of electric shock for right and wrong responses in human subjects. *J. Exper. Psychol.*, 1934, 17, 439-448.—The purpose of this study was to compare punishment for right responses with that for wrong responses in human subjects as a sequel to a similar study with white rats reported elsewhere. In the present study the experiment with the punch-board maze reported by Tolman, Hall and Bretnall was repeated and extended. "As regards the function of electric shock in this situation neither the results of the California experiment nor those of the present experiment showed any significant differences between groups that were and those that were not shocked. It is the writer's opinion that this problem is bound to yield more significant results with animals than with human adults as subjects since the latter are so completely motivated in the usual laboratory situation that the addition of shock cannot produce an accelerating effect upon learning."—H. W. Karn (Clark).

4461. Murr, E. Experimentelle Abkürzung der Tragdauer durch Wärme. (Experimental reduction of the duration of gestation by means of warmth.) *Zsch. f. vergl. Physiol.*, 1933, 19, 237-245.—T. C. Schneirla (New York University).

4462. Pachomov, P., Yushchenko, A., & Chernavkin, S. [A device for the registration of saliva drops in the free-moving animal.] *Sovet. neuropatol.*, 1932, 1, No. 12, 764-765.—The method of investigating secretory reactions on a free-moving animal, previously published by the same authors, is completed by the registration of the number of saliva drops by an altered Ganike device.—A. Yarmolenko (Leningrad).

4463. Petrescu-Heroiu, V. Vergleichende arbeitspsychologische Untersuchungen. (Comparative in-

vestigations on the psychology of work.) *Arch. f. d. ges. Psychol.*, 1933, 89, 549-604.—Six groups of high school and university students of both sexes ranging from 16 to 33 persons were used as subjects in this study of individual differences in the curve of work. Kraepelin's original task of addition as well as five variations of his method involving subtraction, multiplication, division, and the determination of the relations between concepts were used. The work period varied from 6 to 60 minutes for the various groups. The results were then analyzed with respect to age, sex, school performance, nationality, practice effect, fatigue, and the influence of rest periods. All differences are expressed in terms of the per cent by which one group exceeded the other. The relation between mental and physical work was also studied by having the subjects grip a dynamometer immediately before and after performing the mental work. In general, it was found that those superior in the mental activities showed less physical fatigue. Six types of workers are characterized. A tabular summary listing 75 previous investigations utilizing Kraepelin's method together with their results is presented, with a bibliography of 106 titles.—E. L. Kelly (Connecticut State).

4464. Piéron, H. *L'analyse des temps de reaction.* (The analysis of reaction times.) *Année psychol.*, 1932, 33, 106-117.—The author has been primarily concerned with the analysis of the centripetal phase of reaction time. Several years ago he proposed a law relating duration of average reaction times to intensities of stimulation:  $t = a/i^n + K$ .  $K$  represents an irreducible latency,  $a$  represents a reducible margin, and  $n$  may be equal to, greater than, or less than 1. These constants have different values for different modes of stimulation. The validity of this empirical law has been verified through examination of the experimental literature. Using the formula as a point of departure, the author has attempted to relate the values of the constants found for each kind of stimulation to events which are known to occur in end-organs and synapses.—E. H. Kemp (Clark).

4465. Piéron, H. (Mme.) *L'étalonnage d'un test de classement de cartes.* (The scaling of a test of card classification.) *Bull. Inst. nat. orient. prof.*, 1932, 4, 101-112.—The author used a test of 64 cards varying in form and color given to 184 children 12 years of age. Each subject made four classifications, according to form and to color, and a week later in inverse order. The time was noted and errors were penalized by adding  $\frac{1}{4}$  of the average time. The average values of the two successive experiments show that the girls took for the forms 1' 42" the first time and 1' 22" for the second; for the colors 1' 25" and 1' 12". The boys gave for the forms 1' 31" and 1' 25" and for the colors 1' 22" and 1' 11". The boys improved 89% in the second experiment in errors made, the girls only 36%. Correlations with a series of intellectual tests are very low. The test therefore seems to be a measure only of motor rapidity.—(Courtesy *Année psychol.*)

4466. Ponzio, M. *Ricordo e riproduzione volontaria di atteggiamenti respiratori caratteristici di particolari*

*situazioni psichiche già vissute.* (Remembrance and voluntary reproduction of respiratory gestures characteristic of particular mental situations already experienced.) *Arch. ital. di psicol.*, 1934, 12, 1-65.—Studying the manner of formation and fixation of respiratory gestures voluntarily assumed, the author cites examples of respiratory movements in the sensory perceptive field, demonstrating the faithful voluntary mnemonic reproduction. During intense and brief emotional states voluntarily reproduced by remembrance of past experiences, respiratory movements may be proven to be true reproductions of those in spontaneous emotional states by the fact that their characteristic fundamental traits remain constant in voluntary repetition of the same experimental tests. The kinetic breathing formulas for emotions experienced remain fixed with their fundamental characteristics, and for this reason can be imitated. The author affirms: the importance of the respiratory attitude for the causal explanation of numerous mimic gestures; the common affective and motor background persisting in emotional facts varying in their superstructures; and the restoration of primordial respiratory gestures even in seeming disorganization.—R. E. Schwarz (Northport, N. Y.)

4467. Pyatnitski, N. [The question of the grasping reflex as a symptom of a frontal lobe affection.] *Sovet. neuropatol.*, 1933, 2, No. 6, 20-44.—A. Yarmolenko (Leningrad).

4468. Quigley, J. P., & Phelps, K. R. *The mechanism of gastric motor inhibition from ingested carbohydrates.* *Amer. J. Physiol.*, 1934, 109, 133-138.—"Carbohydrates entering the normal empty stomach inhibit hunger contractions. This phenomenon occurs in the denervated stomach and is definitely the result of a humoral factor (not carbohydrate per se) produced by the presence of carbohydrate in the upper intestine, but not in other portions of the gut. A nervous reflex, if also involved, is likewise initiated from the same region. The inhibition persists until the onset of digestive contractions, an interval which is short following ordinary ingestion of carbohydrates, but with concentrated solutions may persist for several hours. It apparently is physiologically significant in controlling the rate at which carbohydrates will enter the duodenum."—C. Landis (N. Y. Psychiatric Institute).

4469. Rohden, H. *Einfluss des Föhns auf das körperlich-seelische Befinden.* (The influence of the warm south wind on physical and mental state.) *Arch. f. d. ges. Psychol.*, 1933, 89, 605-658.—In Innsbruck, as in many other localities, it is commonly believed that a warm south wind is responsible for common physical and mental discomforts such as headaches, languor, excessive fatigue and depressed moods. In order to determine whether or not an actual relationship exists between these conditions and the presence or absence of the south wind, 100 male and 64 female university students were asked to keep daily records of their general mental and physical conditions over 2- to 4-week periods. These records were then carefully analyzed with respect to the presence or absence of the south wind. Every



attempt was made to exclude the influence of suggestion. The analysis revealed that slightly more ailments and more serious ailments were observed on days when the wind was from the south. An increase in mental and physical exhaustion, irritability, headaches and other pains, as well as indigestion was noted. The women were found to be somewhat more affected than the men and residents of the locality suffered more discomforts than non-residents.—E. L. Kelly (Connecticut State).

4470. Rowntree, L. G., Clark, J. H., & Hanson, A. M. The biological effects of thymus extract. *Amer. J. Physiol.*, 1934, 109, 91-92.—Little effect of injection of thymus extract was found in rats upon the first two generations. In the third generation rapidity of physical and sexual development was phenomenal. Abstract.—C. Landis (N. Y. Psychiatric Institute).

4471. Santenose, D., Varé, P., Verdier, H., & Vidacovitch, M. Recherches sur la régulation de l'activité fonctionnelle de l'aire psychomotrice par certaines glandes endocrines. (Studies on the regulation of the functional activity of the psychomotor area by certain endocrine glands.) *Encéph.*, 1929, 24, 50-80.—(*Biol. Abst.* VIII: 13537).

4472. Schubert, G., & Brecher, G. A. Ueber optische Lokalisation und Augenstellung bei Vor-Rückwärtsneigung oder exzentrischer Rotation des Körpers. (Visual localization and eye position with forward-backward inclination or eccentric rotation of the body.) *Zsch. f. Sinnesphysiol.*, 1934, 65, 1-26.—The authors find certain regularities prevalent in the localization of a vertical in space and of the subject's own body when the latter is inclined at various angles forward and backward. Heterophoric deviations relative to the subjective horizontal were also investigated.—F. W. Irwin (Pennsylvania).

4473. Scott, T. C., & Underwood, E. Sex of experimenter and intelligence as factors in maze learning: a further comparison of maze and sex difference. *J. Genet. Psychol.*, 1934, 44, 239-246.—The two mazes used in a former experiment by Scott and Nelson were again employed, this time by women experimenters. As before, the stylus maze was slightly more difficult in trials and errors but less difficult in time than the high-relief finger maze of identical pattern. Sex and intelligence of the subject were unimportant as factors, though sex of experimenter appeared to be of some slight importance.—J. F. Dashiell (North Carolina).

4474. Shvedov, S. [A device for graphic curves of the muscular tonus of the extremities.] *Sovet. neuropatol.*, 1932, 2, No. 1, 113-121.—A. Yarmolenko (Leningrad).

4475. Skaggs, E. B. A summary and critique of methods of measuring "warming up." *J. Appl. Psychol.*, 1934, 18, 65-76.—The Robinson-Heron method of measuring "W U" and the Amberg method of computing the average value of practice effect are examined. The first method may mask small amounts of W U, and in the second method W U may be

spurious because of the greater influence of practice effects at the beginning of the period and less at the end. A direct method of measuring W U is considered by comparing directly the first and last halves of work on a formboard during periods of "well marked and relatively flat plateaus." More W U is found by this method than by the Robinson-Heron formula.—R. S. Schultz (Psychological Corporation).

4476. Skinner, B. F. The extinction of chained reflexes. *Proc. Nat. Acad. Sci.*, 1934, 20, 234-237.—"The extinction of the conditioned initial member of a chain of reflexes may be brought about by interrupting the chain at any point prior to the unconditioned reflex upon which the conditioning is based." The interruption of a chain extinguishes all members up to the point of interruption but not beyond. Thus in a chain of reflexes not ultimately reinforced only the members actually elicited undergo extinction. There are two figures in the text.—W. N. Hallett (Cedar Crest).

4477. Smith, O. C. Action potentials from single motor units in voluntary contraction. *Amer. J. Physiol.*, 1934, 108, 629-638.—"An investigation of action potentials in single motor units in the biceps and triceps muscles of eight young normal individuals has been made with concentric needle electrodes. The electromyogram so recorded is of simple form in moderate degrees of contraction and allows analysis of constituent rhythms. Increase of contraction involves both increase of frequency of impulses in the individual unit and accession of new units. There is great independence of rhythm in different units. The highest frequencies distinguishable were 19 to 20 per second. Low frequencies most often found were 5 to 7 per second, but much slower, highly irregular discharge may occur at threshold. Discharge tends to be more irregular at the end of relaxation than at onset of contraction. In fatigue tests, individual units have maintained a continuous discharge without stop for 13 and 14 minutes, and have continued for 20 to 30 minutes with momentary pauses too short to be considered recovery periods. There is no evidence of rotation of activity, or substitution of units. The question of duality of neuromuscular function is discussed. Since the type of discharge in moderate sustained voluntary contraction is essentially the same as that found by other investigators in 'tonic' activity there is no evidence of separate 'tonic' and 'voluntary' mechanisms."—C. Landis (N. Y. Psychiatric Institute).

4478. Thomas, J. E., Crider, J. O., & Mogan, C. J. A study of reflexes involving the pyloric sphincter and antrum and their role in gastric evacuation. *Amer. J. Physiol.*, 1934, 108, 683-700.—"A study of the reflexes aroused by injecting HCl into the stomach and acid and other substances into the duodenum and by the normal duodenal contents was made by graphic methods on unanesthetized dogs. Peristalsis in the pyloric portion of the stomach and the activities of the pyloric sphincter were recorded. Section of the splanchnics was without effect on any of the reflexes studied; this fact was interpreted as con-

stituting a difference between them and reactions to noxious stimuli. The results are interpreted as indicating the existence of two reflex mechanisms with their receptors in the duodenum, a local excitatory reflex identified with the myenteric reflex, and a central inhibitory reflex over the vagus, designated the enterogastric reflex."—C. Landis (N. Y. Psychiatric Institute).

4479. Ufand, J. M., & Latmanisova, L. V. [The influence of work upon the chronaxy of the neuromuscular apparatus of man.] [*Papers Leningrad Inst. prof. dis.*], 1931, 5, 33-45.—Change of position of the arm and straining of the biceps do not change the chronaxy, but the rheobase is changed. Active muscular work increases both the chronaxy and rheobase of the biceps. Static work does not change the chronaxy, but the rheobase shows a tendency to increase.—A. Yarmolenko (Leningrad).

4480. Wasowski, T. Wie verhält sich die kalorische Erregbarkeit des Labyrinths und die statischen und statisch-kinetischen Reflexe unter dem Einfluss der Extrakteinwirkung der endokrinen Drüsen (Hypophysis, Thymus, Thyreoidea, Ovaria, Testis). (The behavior of the calorific excitability of the labyrinth and the static and static-kinetic reflexes under the influence of extracts of the endocrine glands—hypophysis, thymus, thyroid, ovary, testis.) *Monatssch. f. Ohrenh.*, 1932, 66, 1242-1257.—(*Biol. Abst.* VIII: 13540).

4481. Yushchenko, A. A. [The localization of the conditioned reflex arc.] *Soviet. neuropatol.*, 1933, 11, No. 5, 61-65.—On the basis of his own experiments the author believes that the classic conception of the mechanism of the conditioned reflex is nearer to its true nature than the conceptions with a tendency to try to find the structural basis in physiological processes. These conceptions are based on a point of view of the conditioned reflex as a complex reaction including the organic processes in the enteroceptive and proprioceptive systems and even in the whole central and peripheral nervous system.—A. Yarmolenko (Leningrad).

4482. Yushchenko, A., & Chernavkin, S. [A new method for investigating the conditioned and unconditioned reflexes on a free-moving animal.] *Soviet. neuropatol.*, 1932, No. 8, 327-331.—A new method is described, which makes the immobilization of animals unnecessary. The record of the reaction is made by transmission from a radio transmitter, fixed on the back of a free-moving animal, to the receiver of the registering device.—A. Yarmolenko (Leningrad).

[See also abstracts 4346, 4366, 4371, 4397, 4402, 4420, 4423, 4424, 4425, 4430, 4497, 4507, 4508, 4517, 4534, 4541, 4542, 4589, 4674, 4690, 4703, 4707, 4817.]

#### PLANT AND ANIMAL BEHAVIOR

4483. Angulo y González, A. W. The early development of the feeding reaction in albino rat. *Anat. Rec.*, Suppl., Feb. 1932, 52, 2.—(*Biol. Abst.* VIII: 13503).

4484. Ballachey, E. L., & Buel, J. Centrifugal swing as a determinant of choice-point behavior in the maze running of the white rat. *J. Comp. Psychol.*, 1934, 17, 201-223.—90 rats were given 10 trials each in mazes calculated to isolate for observation the phenomenon of centrifugal swing, or deviation of the rat's path to the outside wall of the maze elbow. The path traced by the rat was automatically recorded. "The paths of the animals were found to be significantly related to their choices. The high degree of relationship observed indicates the validity of the concept of centrifugal swing." Dashiell and Bayroff's concept of orientation determined by a "forward-going tendency" is said to be unimportant in explaining the animals' choices. Bibliography.—N. L. Munn (Pittsburgh).

4485. Beniuc, M. Bedeutungswechsel der Dinge in der Umwelt des Kampffisches *Betta splendens* Regan. (Alteration in the significance of objects in the environment of the fighting fish *Betta splendens* Regan.) *Zsch. f. vergl. Physiol.*, 1933, 18, 437-458.—Under one condition (e.g. appearance of a revolving sectorized disk) the fish was trained to feed from tweezers, but under another condition (e.g. appearance of a gray disk) the fish was lightly struck with the tweezers, and learned to swim away from the scene. In "spatial" experiments the fish was able to avoid the gray disk and to approach when any other disk appeared (that is, any disk with heterogeneous surface), although the sectorized disk was most effective. Other fishes, trained to approach the gray disk, approached any disk of homogeneous surface (e.g. white, yellow), while giving the "fighting reaction" in response to the sectorized disk. In the "temporal" experiments, the subject learned to swim from any disk that was presented within 3-5 seconds after tweezers-with-food had been shown, and to approach at any time within the following 40 seconds. Analyses of the various reaction-types are offered, in terms of involved internal and external factors.—T. C. Schneirla (New York University).

4486. Bertholf, L. M. The extent of the spectrum for *Drosophila* and the distribution of stimulative efficiency in it. *Zsch. f. vergl. Physiol.*, 1932, 18, 32-64.—The red-eyed *Drosophila melanogaster* was tested with a method previously used for the bee. The relative effect per unit of energy was computed for selected wave-lengths (from the white light values which equaled corresponding selected wave-lengths in stimulative effect and from the relative energy of each wave-length used). The flies were permitted to pass toward glasses on which monochromatic and white lights were thrown, and the lights were assumed to be equal in their stimulative effect when the numbers of flies in the corresponding compartments were equal. In most cases the last value was graphically interpolated. The lower stimulus threshold appeared to lie near 235m $\mu$ . From this point the curve of stimulative efficiency rises somewhat rapidly to 254m $\mu$  (arbitrary value 51), drops somewhat at 280m $\mu$  (a. v. 24), rises rapidly to a maximum at 365m $\mu$  (a. v. 561), then drops rapidly to 425m $\mu$ .

(a. v. 22), from which point it rises to another maximum at 487m $\mu$  (a. v. 100) and then falls to zero at about 700m $\mu$ . There are thus two maxima, one at 450-562m $\mu$  and the other in the ultra-violet. In general, this curve is similar to that previously found for the honey bee.—T. C. Schneirla (New York University).

4487. Beutler, R. *Über Sauerstoffempfindlichkeit bei Hydra*. (Concerning oxygen sensitivity in hydrae.) *Zsch. f. vergl. Physiol.*, 1933, 18, 718-739.—Hydrae tends to remain near the surface film in a vessel that lacks water plants. With water plants located at the bottom of a tube, both fed and unfed hydrae pass toward the bottom. *Pelmatohydra* (the brown hydra) moves readily toward the end of a tube from which oxygen is diffusing (illumination constant), whether this movement carries it downward, upward, or horizontally. *Chlorohydra* (the green hydra) does not migrate to the air- (or oxygen-) containing end of a tube unless a period in darkness has preceded the trial, since in daylight the symbiotic algae of this hydra actively give up oxygen and consume CO<sub>2</sub>. In a Y-tube, the hydrae pass into the oxygen- or air-containing arm, but not into the arm which contains nitrogen. All of the results indicate a specific sensitivity in hydrae for O<sub>2</sub>, and a tendency to move more and more actively as oxygen is exhausted from the tissues (or as CO<sub>2</sub> accumulates).—T. C. Schneirla (New York University).

4488. Bierens de Haan, J. A. *Versuche über die Verwendung der Kiste als Schemel bei einigen Procyoniden, nebst einigen Bemerkungen über das konkrete Verständnis der Tiere im allgemeinen*. (Experiments on the use of the box as foot-stool by certain procyonids, with additional remarks about concrete understanding among animals in general.) *Zsch. f. Psychol.*, 1934, 131, 193-216.—Raccoons were presented with the task of moving a box into place, so that it could be used as a stand from which suspended food might be reached. In those cases in which the problem was solved, typical "insightful" behavior, similar to that described by Köhler, was observed. Unlike the solutions of Köhler's apes, however, the progress made by the raccoons was slow and halting, suggesting that insight is not always characterized by suddenness. This is confirmed by evidence from the behavior of other animals.—R. B. MacLeod (Swarthmore).

4489. Bruhn, M. J. *Respiratory metabolism of infrahuman primates*. *Amer. J. Physiol.*, 1934, 109, 16-17.—Respiratory metabolism of the monkey, baboon, gibbon, orang-utan and chimpanzee was studied, both in normal animals and in animals in which portions of the central nervous system had been extirpated. Abstract.—C. Landis (N. Y. Psychiatric Institute).

4490. Buel, J. *The linear maze. I. "Choice-point expectancy," "correctness," and the goal gradient*. *J. Comp. Psychol.*, 1934, 17, 185-199.—The elimination of errors in an 8-unit linear multiple-T maze differed with the nature of the blind rather than with

its position in the maze. Those blinds which pointed in the same direction as the last correct turn had a decreasing error frequency as the end of the maze was approached, while those blinds which pointed in a direction opposite to that of the last correct turn had an increasing error frequency as the end of the maze was approached. The author explains his results in terms of an increase in the rat's expectancy of the last correct turn as this turn is approached. This expectancy follows the goal gradient, while correctness does not. A reversal of the direction of the last correct turn led to a rearrangement of the serial order of elimination for each type of blind. This serial order was established later for blinds in the same direction as the previous last correct turn than for blinds in the opposite direction. Bibliography.—N. L. Munn (Pittsburgh).

4491. Carpenter, C. R. *A field study of the behavior and social relations of howling monkeys*. *Comp. Psychol. Monog.*, 1934, 10, No. 2. Pp. 168.—The locale of this study was Barro Colorado Island. The contents of the monograph are as follows: manipulation, posturing, locomotion, and feeding; territoriality and nomadism; organization of the population; group integration, social relations and intra-group behavior; group coordination and control; inter-group relations and comparison of species and subspecies; and the relations of howler monkeys to other animals of the same environment. The groups varied in size from 4 to 35 animals. The sociometric sex ratio was approximately 28% males to 72% females. Groups were divided into subgroups. The males behave cooperatively in the protection of the group. Leadership resides in the males. Mothers are somewhat indifferent toward their young and, about the time of weaning, may mildly fight them. The intra-group relationships tend to be peaceful. Complementary males are regarded as enemies by males within the clan. Stereotyped forms of play are manifested by young animals. Wrestling and chasing patterns predominate in this play. Posturing, gesticulation and vocalization serve as important means of distant signalization. Males mate communally with an oestrous female. Several plates and an extensive bibliography.—N. L. Munn (Pittsburgh).

4492. Crawford, S. C. *The habits and characteristics of nocturnal animals*. *Quar. Rev. Biol.*, 1934, 9, 201-214.—Nocturnal rhythms, once established, may be exhibited even when the animals are kept under constant conditions of illumination, humidity and temperature. The advantages given for the nocturnal habit are: avoidance of day-time enemies, easier obtaining of preferred food, avoidance of excessive evaporation from the body, and easier communication between animals. The chief changes in the animal concern vision and luminescence. The other senses show differences of degree rather than of kind, which are harder to analyze, since the senses are not employed singly as often as collectively. The use of the different senses is discussed. Bibliography of 2 pages.—O. W. Richards (Yale).



4493. Elder, J. H. Auditory acuity of the chimpanzee. *J. Comp. Psychol.*, 1934, 17, 157-183.—The animals were trained to press a key when the audiometer tone was present and to refrain from reacting when it was absent. A food reward was given for correct responses. The tone was decreased in intensity in steps of one decibel until the threshold was reached. "Under more favorable experimental conditions than are ordinarily used in testing human hearing, the absolute intensity thresholds of the chimpanzees were found to be slightly lower than the average human threshold. With the exception of the averages for two animals at a single frequency (4096—), all of the thresholds lie below the human average but not beyond the corresponding limits of variation." Bibliography.—N. L. Munn (Pittsburgh).

4494. Fischel, W. Das Verhalten von Hunden bei doppelter Zielsetzung und doppelter Handlungsmöglichkeit. (The behavior of dogs with double goal setting and two possible actions.) *Zsch. f. vergl. Physiol.*, 1933, 19, 170-182.—Two fox terriers learned to paw a string through a paling fence, thereby getting food attached to the string. When one of two strings was attached to a piece of meat behind the fence, the second string to a biscuit separated from the meat by a partition, the dogs at first pulled with equal frequency at the two strings, although the biscuit was neglected, if secured first, until the meat had been pulled in. But after a dozen trials both dogs plainly showed their ability to paw first at the string attached to the meat. In a further experiment with the two lures placed behind an 80 cm. long fence, and separated by the partition, so that the dog on a given trial could reach either of the lures only by running around its end of the barrier, the subjects responded to the two possibilities with equal frequency during the first fourteen trials. But after this the detour which led to the meat on any trial was taken promptly. In order to control the spatial factor, a situation was set in which the dog must do one thing (pull the string—the more readily given action) to obtain the less preferred biscuit, and another thing (take the fence detour) to obtain meat. At first the dogs pulled the string more frequently, although the biscuit was abandoned at once when it arrived. As before, further trials saw the subjects able to react first to the preferred meat with the appropriate reaction. In a further setting which permitted either of two responses (to lift a gate, to paw it forward) to be given to either of the two lures, the animals learned only gradually which movement brought meat and which brought biscuit. Thus in all experiments the dogs showed themselves incapable of a prompt solution in terms of secondary factors. At first in each case the food furnished a drive, but did not determine the form of the response, which could be established only gradually in relation to the goal.—T. C. Schneirla (New York University).

4495. Fraenkel-Conrat, H. Die Innervation der Krebschere. (The innervation of the crab's pincer.) *Zsch. f. vergl. Physiol.*, 1933, 19, 38-46.—The author

studied the function of the individual nerves of the crab's cheliped by observing the responses of this member to stimuli presented following the sectioning of single peripheral nerves or of combinations of nerves. In the results no basis was found for the assumption that anatomically differentiated inhibitory nerves exist. Wedensky inhibition is believed to account for the facts.—T. C. Schneirla (New York University).

4496. Friedrich, H. Nervenphysiologische Studien an Insekten. I. Untersuchungen über das reizphysiologische Verhalten der Extremitäten von *Disippus morosus*. (Neurophysiological studies on insects. I. Investigations of the stimulo-physiological action of the extremities of *Dixippus morosus*.) *Zsch. f. vergl. Physiol.*, 1933, 18, 536-561.—With fine needle electrodes, rapidly successive shocks from an inductorium were presented (directly and indirectly) to the tibial action system of the walking stick. Direct stimulation of the locality caused the extensor to contract more strongly than did the flexor. Flexion and extension were excited or inhibited by means of stimuli presented to the lateral roots of the thoracic ganglion of direct supply. Indirect stimulation presented to the coxal region of the leg, to the same level of the thorax, or to segments of the nerve chain just anterior to or just posterior to the level of response, brought tibial flexion when the shocks were intense, and brought tibial extension when the shocks were weak. The results were just the opposite when abdominal ganglia were stimulated—tibial extension occurred when the shocks were strong, tibial flexion when the shocks were weak. An adequate theoretical explanation awaits further knowledge concerning the rest of the walking complex.—T. C. Schneirla (New York University).

4497. Groebbels, F. Untersuchungen über die Bewegungen des Herzens und des Amnions bei Vogelembryonen. (Studies on the movement of the heart and of the amnion in bird embryos.) *Zsch. f. vergl. Physiol.*, 1933, 19, 574-582.—The movements of the embryonic heart and amnion membrane were observed under magnification, with intense illumination from behind the intact egg. Between the third and fifth days, it was found, the heart rate is slower than in later embryonic life, but faster in relation to the mass of egg and embryo. The heart of the warbler beats somewhat more rapidly than does that of the chick. As external temperature decreases, there occurs a drop in the heart rate, and in an atmosphere surcharged with CO<sub>2</sub> the rate is increased, there is fluttering, and arrhythmicity and heart block are other effects. The movements of the amnion are first apparent on the third day, increase in frequency toward the seventh day, slacken somewhat on the eighth day, and later become irregular. Species and individual differences were found in these characteristics, particularly in the important control exerted by external temperature over amnionic activities. Bibliography.—T. C. Schneirla (New York University).

4498. Gundlach, R. H. An anecdote illustrating "disgust" in a dog. *J. Genet. Psychol.*, 1934, 44,

253-254.—Head and face, respiratory, and more general bodily behavior clearly of disgust type was awakened repeatedly by a certain kind of food.—*J. F. Dashiell* (North Carolina).

4499. **Haug, G.** *Die Lichtreaktionen der Hydren (Chlorohydra viridissima und Pelmatohydra oligactis (P.) typica).* (The reactions of hydrae to light.) *Zsch. f. vergl. Physiol.*, 1933, 19, 246-303.—In diffuse illumination, changes in position followed a zigzag course which lacked general orientation, but in directed light oriented movements began within ten minutes, and continued until the lighted side of the vessel had been reached. At the lower intensity threshold, near .4-.8 m.c., there was partial assemblage on the illuminated side during fairly long periods of time, but at higher intensities movement was more rapid and general progress was definitely oriented with respect to the light. The basis of this behavior is the photic reaction, which depends upon the effect that shading exerts upon the head end of the hydra. The animal loses its orientation in the course of each somersault-extension movement, but regains it during the circling or "probing" that ensues after reattachment. Sensitivity to  $O_2$  content of the medium, to diffusing food juices, or to temperature changes, was found subordinate to the action of light in controlling orientation, except at the extremes (e.g. at a temperature of 37° C.), when the light was low in intensity, or after the animals had reached the lighted side.—*T. C. Schneirla* (New York University).

4500. **Hertzer, K., & Sgonina, K.** *Dressurversuche mit Igeln. I. Orts-, Helligkeits- und Farbendressuren.* (Training experiments with the European hedgehog. I. Place, brightness, and color training.) *Zsch. f. vergl. Physiol.*, 1933, 18, 481-515.—The hedgehog is fairly successful at learning problem solutions. In this experiment, subjects learned to open boxes provided with sliding tops, and retained given solutions over periods of two or three weeks. Having mastered a sliding door on the basis of its position in a series, the animal adjusted to interference with its operation as learned by shifting quickly to another door, or by moving the first door in a different manner. Animals learned a door situation on the basis of brightness differences, and within limits evidence was found for Weber's law. Choices on a relative basis were also obtained. Failure in one case appeared attributable to inattentiveness. It was possible to train an individual to distinguish yellow from other colors (papers) and from grays.—*T. C. Schneirla* (New York University).

4501. **Hertz, M.** *Über das Verhalten des Einsiedlerkrebses Clibanarius misanthropus gegenüber verschiedenen Gehäuseformen.* (Concerning the behavior of the hermit crab *Clibanarius misanthropus* when confronted with various forms of receptacle.) *Zsch. f. vergl. Physiol.*, 1933, 18, 597-621.—The visually controlled approach of the hermit crab to objects was found to depend mainly upon the figural distinctiveness or prominence of the object against the background, and secondarily upon its surface coloration. Black objects (e.g. black stones, vertical

black strips) against white grounds were responded to more readily than were white objects against black grounds. Further response was found to be independent of vision. Objects varying widely in shape and size were turned about in the walking legs, but the insertion of the abdomen, the next phase of the response, was found to depend upon surface properties. Objects with very shallow holes were manipulated, but did not release the abdomen response; objects with parabolic holes were drawn into but soon abandoned; while objects with deep cavities were permanently occupied. Apertures in objects, or special features such as hole-stoppers, were located tactokinetically. Removal of a stopper from the aperture of a roughly surfaced snail shell required a considerable time; less time was taken if the stopper was loose. Within three trials there was a definite decrease in the time required to respond to and occupy a smoothly surfaced shell. Trials with smooth shells increased the time required for insertion of the body into roughly surfaced shells.—*T. C. Schneirla* (New York University).

4502. **Hoth, G.** *Labyrinthversuche an Mäusen im Hinblick auf die Vorwegnahme.* (Maze experiments with mice in regard to the anticipation phenomenon.) *Zsch. f. vergl. Physiol.*, 1933, 19, 386-423.—Released on each trial in the center of a special maze (facing in a different direction), the animal must find its way to food through one of the four systems of paths which opened from a central area. The pathway systems, each taking its origin on a different side of the area, were exactly alike in their first arms, but differed from one another in their further units. For instance, the system which opened on the side opposite the food route differed from this only in its succession of turns, since both systems had right-angle turns; but the third system had acute-angle turns, while the fourth system had curved arms. Unable to orient itself in the central area of the apparatus, the animal must become oriented after having passed the first arm of any given system. With increasing trials the subjects ran more frequently from a "non-food" system directly into the "food" system, and particularly were they able so to respond after leaving the "non-food" system which had right-angle turns. Reversals in the non-food systems before attaining the end increased in frequency, but such reversals were not observed in the food system after the early runs. A consistent feature of behavior was the slow running speed upon entering non-food systems (i.e. their second arms) on further trials, and this was followed by an increase in running speed during departure from the system as well as by a further marked burst of speed in crossing the area and passing through the food system. The experimenter concludes that the cue furnished the animal by the run in the non-food system was kinesthetic in nature, and that the anticipation therefore was effective primarily in terms of this modality.—*T. C. Schneirla* (New York University).

4503. **Humphrey, E. S.** "Mental tests" for shepherd dogs. *J. Hered.*, 1934, 25, 129-136.—By ob-

servation and analysis, a partial list of characteristics which make up the "temperament" of German shepherd dogs has been evolved. Examples of these characteristics are ear sensitivity, willingness, confidence, etc. The characteristics required by dogs trained for special work are enumerated, e.g. for police work, trailing work, leading the blind, army messenger work, and "companion dogs."—B. S. Burks (California).

4504. Jacobsen, C. F. The effects of extirpation of the frontal association areas in monkeys upon complex adaptive behavior. *Amer. J. Physiol.*, 1934, 109, 59.—The ability to respond upon the basis of "immediate memory" is dependent upon the intactness of the frontal association areas. Abstract.—C. Landis (N. Y. Psychiatric Institute).

4505. Jordan, H. J., & Lullies, H. Leitung und refraktäre Period bei den Fussnerven von *Aplysia limacina*. (Conduction and refractory phase in the pedal nerves of *Aplysia limacina*.) *Zsch. f. vergl. Physiol.*, 1933, 19, 648-665.—The work on nerve-muscle preparations from this gastropod mollusk represents part of a program directed toward a comparison of invertebrate nervous functioning with that of vertebrates. The amplitude of response was found to be dependent upon the strength of stimulus (single break shocks). The effects of narcotization of the nerve may be superseded by increasing the strength of stimulation. If the action of two narcotic chambers prevents conduction, the nerve again functions when one of the chambers is removed. No absolute refractory phase was discovered for the pedal nerve of *Aplysia*, but one was found for *Mya*, whose peripheral nerves behave differently from those of *Aplysia* in other respects as well. The experimenters conclude that invertebrate peripheral nerves and muscles assume many functions which are discharged by nervous centers in the vertebrates.—T. C. Schneirla (New York University).

4506. Klein, K. Eine Beobachtung an *Sepia*. (An observation on *Sepia*.) *Biol. Zentbl.*, 1931, 51, 381-382.—Ablation of statocysts from 200 individuals of *Sepia officinalis* was done. In the operation the duct of the "Tintenbeutel" was closed with a bull-dog clamp; in many cases the animal made apparent, prolonged, seemingly purposive attempts to remove the clamp.—(Biol. Abst. VIII: 13479).

4507. Koller, G. Versuche an nervenfreien embryonalen Amphibienherzen. (Experiments on nerve-free embryonic amphibian hearts.) *Zsch. f. vergl. Physiol.*, 1932, 18, 186-203.—T. C. Schneirla (New York University).

4508. Kriashev, V. J. [The character of the higher nervous system activity of hypophysectomized animals.] *Sovet. nevropatol.*, 1932, No. 9, 550-589.—The behavior of hypophysectomized animals is of a sharply defined infantile character with a decreased general excitability, and hypodynamic decrease of emotions. The whole higher nervous activity has a peculiar analytical character with a deepened discrete activity of centers and reflex functions of cortex.—A. Yarmolenko (Leningrad).

4509. Kühl, H. Die Fortbewegung der Schwimmkrabben mit Bezug auf die Plastizität des Nervensystems. (The locomotion of aquatic crabs, with regard to the plasticity of the nervous system.) *Zsch. f. vergl. Physiol.*, 1933, 19, 489-521.—In the locomotion of Portunidae the activities of the specialized swimmers (last pair of legs) may interrupt the rhythm of the walking legs. Walking may pass automatically into swimming, when the dactyli of the walking legs no longer press against a surface. In sideward swimming, a rapid type of locomotion, the swimming appendages move almost synchronously; while in backward swimming, a slow type of movement, the swimming appendages strike alternately in their rotation. During climbing, as the walking legs move rhythmically against the ground, the swimming appendages continue in their own rhythm. Following the removal of given walking legs, alterations in the walking rhythm of the respective surviving legs occur as in other Brachyura. Complete removal of segments from swimming legs increases the rapidity of their action by virtue of decreasing the resistance of the water. Unilateral brain extirpation results in prominent flexion of the legs on the operated side (causes them to work forward), and increases the amplitude and rate of their action, while the legs on the normal side work laterally; hence circus movements arise.—T. C. Schneirla (New York University).

4510. Langworthy, O. R., & Richter, C. P. The cerebral motor cortex of the porcupine. *J. Psychol. u. Neur.*, 1933, 45, 138-142.—(Biol. Abst. VIII: 13519).

4511. Lissmann, H. W. Die Umwelt des Kampffisches (*Betta splendens* Regan). (The environment of the fighting fish *Betta splendens* Regan.) *Zsch. f. vergl. Physiol.*, 1932, 18, 65-111.—Movements of the water which stimulate lateral-line receptors on the head serve as "warning stimuli" to the fighting fish, and subsequent visual stimuli (e.g. size and movement of objects) determine whether food-taking, "fighting," or some other response is to be given. Vision is the important type of reception in controlling the fighting response, since the fish were made to fight through glass, or to respond to models of various kinds. In the "fighting response" there are three phases: (1) The approach, accompanied by coloration changes (e.g. general darkening, appearance of longitudinal striping), drooping of fins and raising of gill-covers; (2) the close contact, in which the fish may swim parallel to the object; and (3) the snapping reaction. Gradual decreases in the distinctiveness of body coloration and striping of pasteboard models decreased the incidence of recognizable fighting responses to such objects. Flight occurs when the object is close to twice the size of the *Betta* itself. The fighting response may be given to a portion of *Betta* body (the anterior third of the body, with raised gill-covers, was found most effective), but an elongated plastelin model was even more effective. The first two phases of the response may be elicited by tadpoles and plaice, but the second phase does not lead to the third phase unless the object moves much as would a *Betta*. Experiments (e.g. substitution of a



female for the second male) show that the manner in which the partner moves following the second phase of encounter is responsible for the appearance of sex play instead of the biting phase of fighting. A description of sex behavior is given, as well as various ecological and physiological data.—*T. C. Schneirla* (New York University).

4512. *Lissmann, H. W., & Wolsky, A. Funktion der an Stelle eines Auges regenerierten Antennule bei Potamobius leptodactylus Eschh.* (The function of an antennule, regenerated in place of an eye, in *Potamobius leptodactylus* Eschh.) *Zsch. f. vergl. Physiol.*, 1933, 19, 555-573.—In the place of a marsh crab's right eye there regenerated a well-developed antennule which possessed all of the characteristics of a normal antennule. On the basis of the manner in which cleaning responses were elicited by means of stimuli presented to head parts (e.g., chemical stimulation of the terminal portion of the heteromorphic structure brought cleaning of the antennule of the opposite side by the third maxillary appendage of that side) the pattern of nervous control of these structures is suggested.—*T. C. Schneirla* (New York University).

4513. *Lotmar, R. Neue Untersuchungen über das Farbensinn der Bienen, mit besonderer Berücksichtigung des Ultraviolets.* (New studies on the color sensitivity of the bee, with particular consideration of the ultra-violet.) *Zsch. f. vergl. Physiol.*, 1933, 19, 673-723.—In experiments with Hering papers, a red and a purple were preferred to other colors, but the spontaneous response of the bees to the darker member of most pairs showed this to represent a "darkness response," based upon intensity differences. This is a fact of some biological importance, since younger flowers are generally more darkly colored than are older ones. The bees are attracted from a distance by the brighter part of the bloom, and upon their arrival they react "spontaneously" to the darker nectar-containing part. Experiments that involved the use of four intensities of each color showed that the members of the "yellow group" and the "blue group" are not sharply distinguished, and that colors within the groups are distinguished predominantly in terms of intensity differences (or in terms of ultra-violet reflection). In experiments with flower petals, it was found that blossoms which reflect ultra-violet may be discriminated by the bees on the basis of this feature. But such blossoms were not spontaneously preferred by bees to those not reflecting ultra-violet, since other characteristics (e.g. size) must be effective as well. Ultra-violet sensitivity frequently is unexpectedly involved in flower-visiting. For instance the poppy (*Papaver*), in spite of the fact that the wave-length of much of its light lies in the extreme red end of the spectrum (to which the bee is virtually insensitive), is visited on the basis of the ultra-violet that it reflects.—*T. C. Schneirla* (New York University).

4514. *Muenzinger, K. F. Motivation in learning. I. Electric shock for correct response in the visual discrimination habit.* *J. Comp. Psychol.*, 1934, 17, 267-277.—Three groups of white rats were trained on a simple black-white discrimination with, respectively,

shock for errors, shock for correct responses, and no shock. Each group received a food reward after the correct response. The group trained without shock was significantly inferior, making more than twice as many errors during the first 100 trials as either of the other groups. The group which was shocked for correct responses was slightly, but insignificantly, inferior to the group shocked for errors. The author concludes that "the function of moderate electric shock in the visual discrimination habit is general rather than specific . . . it affects the total performance rather than the part-response it accompanies. In other words, its function is to make the animal respond more readily to the significant cues in the learning situation rather than that of inhibiting or facilitating the response which is shocked. . . . The results flatly contradict that part of the law of effect which deals with the after-effects of annoyances." Bibliography.—*N. L. Munn* (Pittsburgh).

4515. *Neu, W. Wie schwimmt Aplysia depilans L.? (How does Aplysia depilans L. swim?)* *Zsch. f. vergl. Physiol.*, 1932, 18, 244-255.—Swimming in this gastropod mollusk occurs through the forcing back of water by the drawing together of the parapodial lappets over the mid-dorsum. A single phase of movement lasts 1.26". Cinematographic records are analyzed, and there is a consideration of the factors which govern the manner of swimming.—*T. C. Schneirla* (New York University).

4516. *Ni, C.-F. An experimental study of the influence of punishment for errors during learning upon retention.* *J. Comp. Psychol.*, 1934, 17, 279-301.—Four groups, comprising a total of 129 white rats, were trained on Lashley's maze III under the following conditions: Group 1, no shock for errors either in original learning or in relearning. Group 2, no shock in original learning but shock for errors during relearning. Group 3, shock for errors during both learning and relearning. Group 4, shock for errors in original learning but no shock during relearning. Relearning was tested after 30 days. Punishment for errors decreased the trials and errors in original learning. It had no clear-cut effect upon time and total retracings. Punishment for errors during the original learning increased the efficiency of relearning by decreasing the number of trials, the number of errors, and the time. It had no significant effect upon retracing. The author concludes that punishment for errors is beneficial not only in original learning but in retention. Bibliography.—*N. L. Munn* (Pittsburgh).

4517. *Peczenik, O. Über den Mechanismus der Intermedinreaktion.* (Concerning the mechanism of the pars intermedia reaction.) *Zsch. f. vergl. Physiol.*, 1933, 19, 84-93.—Injection of Schering's pituitary extract brought the minnow to the coat coloration which usually appears during courting. This result was facilitated by the administration of parasympathetically active drugs (e.g. pilocarpin), and it was inhibited by adrenalin. These facts, together with the outcome of local spinal cord and brain stem operations in the injection experiments, led to the conclusion that in addition to its direct peripheral

action, the pars intermedia hormone normally exerts an indirect effect upon the coloration effectors through its control over a spinal vegetative mechanism.—*T. C. Schneirla* (New York University).

4518. Peters, H. Weitere Untersuchung über die Fanghandlung der Kreuzspinne (*Epeira diademata* Cl.) (Further research into the act of capture in the garden spider *Epeira diademata* Cl.) *Zsch. f. vergl. Physiol.*, 1933, 19, 47-67.—*Epeira* carries captured booty to its station in a manner that depends upon the weight of the object. Similarly sized glass droplets of varying weights were presented, and the lightest ones (ca. 9 mg.) practically always were carried in the chelicerae, while the heavy ones (ca. 81 mg.) were usually carried on the abdomen. Very small booty animals were not encased in silk, as were the larger ones that were presented experimentally. In ten or fifteen cases, a fly which had been encased by another spider failed to elicit spinning when it was presented to the spider after the usually effective artificial buzzing. These facts are considered teleologically, as well as in terms of the conditions which appear necessary for the elicitation of the component parts of the serial act of capture.—*T. C. Schneirla* (New York University).

4519. Peterson, G. M. Mechanisms of handedness in the rat. *Comp. Psychol. Monog.*, 1934, 9, No. 6. Pp. 67.—A review of the literature on handedness as well as a presentation of research on various crucial problems, this monograph offers data on the incidence of handedness, the factors which determine handedness, and the cerebral mechanisms in handedness. The author finds handedness in the rat to be of three varieties (left, right, and mixed), to be an enduring and stable characteristic in a given situation, to be sometimes inconsistent in different situations, to be uninfluenced by the position of the fetus, to be independent of eye dominance, to be rather definitely localized in the frontal area of the contralateral hemisphere, and to be transferred by destruction of the critical area amounting to less than 4%. Other findings are that right- and left-handedness occur with about equal frequency, that practice cannot altogether account for the trait, that its inheritance (if it is inherited) is not according to a simple Mendelian formula, that it is not conditioned by the mode of origin of the carotid arteries, that its area can be located roughly by electrical stimulation, that lesions amounting to as much as 50% of one hemisphere (providing the critical area is not involved) do not affect it, that lesions in the homolateral hemisphere do not influence it, that animals with both critical areas involved continue to show a preference for one hand ("indicating an asymmetrical mechanism which is extra-pyramidal, subcortical, or both"), and that forced practice with the affected hand reveals the possibility of reeducation. The author presents a lengthy discussion of the question of localization, in which he asserts that Bartley and Perkins have erroneously interpreted Lashley's work as proving the non-existence of cerebral localization. He points out that his own work is "more easily explicable in

terms of the doctrine of localization than in terms of hypotheses denying localization" and that this conclusion does not conflict with Lashley's views on localization of relatively simple processes. "To show that localization is an ill-devised concept with reference to maze learning, and the like is one thing. To assume that it likewise breaks down when applied to much simpler phenomena, of which handedness appears to be an example, is quite another." Bibliography and 54 plates showing position and extent of lesions.—*N. L. Munn* (Pittsburgh).

4520. Preyer, J. Über die Wirkungsweise der Herznerven bei den Fischen. (On the functioning of the cardiac nerves in the fishes.) *Zsch. f. vergl. Physiol.*, 1932, 18, 1-9.—In the eel heart, which represents "type A" in the fishes, strengthening of stimulation through the vagus brings about a retardation (increased refractory phase) in the functioning of the sinus. With intense vagal stimulation the sinus is rendered non-functional, and stoppage of the entire heart may be the result. No difference was found in the functioning of the right and of the left vagus.—*T. C. Schneirla* (New York University).

4521. Priebatsch, I. Der Einfluss des Lichtes auf Farbwechsel und Phototaxis von *Dixippus* (*Carausius*) *morosus*. (The influence of light on the coloration changes and phototaxis of *Dixippus* (*Carausius*) *morosus*.) *Zsch. f. vergl. Physiol.*, 1933, 19, 453-488.—In the coloration changes of the walking stick under natural conditions, the lower half of the eye typically is darkened, the upper half brightly illuminated. Darkening of the lower ommatidia alone brings changes in coloration; complete shellacking of both eyes prevents the occurrence of such changes. Green is least effective of all spectral rays when it stimulates the eyes from below, but is most effective of all when it reaches the eyes from above. When an equal energy spectrum is employed, the curve of stimulating efficiency has its highest point in the ultra-violet, and falls steadily toward the long wave end. No distinction need be made between transmitted light and reflected light in the production of coloration changes in this insect.—*T. C. Schneirla* (New York University).

4522. Prosser, C. L. The nervous system of the earthworm. *Quar. Rev. Biol.*, 1934, 9, 181-200.—This comprehensive review includes the historical development, gross morphology, histology of the central nervous system, peripheral components of the nervous system, regeneration, and function of the nervous system. Nineteenth century study was morphological and that of the twentieth century is physiological. The latter work is concerned with locomotion, segmental independence, giant fiber function and cephalic dominance. Bibliography of 138 titles.—*O. W. Richards* (Yale).

4523. Ritter, W. E., & Benson, S. B. "Is the poor bird demented?" Another case of "shadow boxing." *Auk*, 1934, 51, 169-179.—A detailed record of a towhee's fighting its own image reflected from window panes and mirrors. The writers correlate such activity with defense of territory and cite other

records which show that image-fighting is not restricted to the towhee.—R. H. Brown (Clark).

4524. Rösch-Berger, K. *Das Gedächtnis der Biene nach der Narkose.* (The memory of the bee after narcosis.) *Zsch. f. vergl. Physiol.*, 1933, 18, 474-480.—The failure of Tirala's etherized bees to return to their hive must be attributed to the fact that they had not become oriented in the vicinity previous to the experiment. In the present tests habituated bees were used, and neither a period in the refrigerator nor etherization was successful in preventing their fairly prompt return to the hive (i.e. within fifteen minutes from the time of release). In addition, bees that had been trained to visit yellow papers were equally successful in returning to the hive from a distance whether etherized, subjected to low temperature, or untreated.—T. C. Schneirla (New York University).

4525. Rowley, J. B. *Discrimination limens of pattern and size in the goldfish *Carassius auratus*.* *Genet. Psychol. Monog.*, 1934, 15, 245-302.—The problem, as regards pattern discrimination, was to find the smallest difference in pattern of visual stimuli that could be distinguished by the goldfish. Final results were obtained on six fish. In the other part of the study the problem was to find the smallest difference in size that could be discriminated. Final results were secured on ten fish. All fish learned to discriminate between cards when the difference in stripes was 8 mm.; four where the difference was 5 mm.; and one where the difference was 2 mm. Twelve learned to discriminate between circles differing in diameter as little as 0.5 cm. when the brightness was not equated; and nine between circles differing by 0.3 cm. Two were able to discriminate when the difference was 0.2 cm. When the absolute and relative photic effects of the stimulus areas were varied the limen for discrimination of size is  $\frac{1}{10}$  of the standard circle of 3 cm. diameter. The literature in the field is reviewed and 26 studies are cited in the bibliography.—F. M. Teagarden (Pittsburgh).

4526. Ruch, F. L. *Goal direction orientation, generalized turning habit, and goal gradient as factors in maze learning in the rat.* *J. Comp. Psychol.*, 1934, 17, 225-232.—The maze records of 139 rats trained on three different multiple-T mazes were analyzed. This analysis showed the difficulty of elimination to be determined by (1) whether or not a given blind pointed in the direction of the goal; (2) whether or not the true pathway contained a preponderance of right or left turns and the given blind conformed with this tendency; and (3) the serial order of the blind, which determines the goal gradient. There was definite evidence of the existence of a goal gradient for comparable blind alleys. The author says, "If this analysis has any value it lies as much in indicating the complexity of the factors present in the learning of a moderately simple maze as in showing the validity of the goal gradient hypothesis. It does, however, indicate that a goal gradient might be expected to appear more clearly in mazes which do not present an opportunity for

goal-direction orientation or generalized turning habits." Bibliography.—N. L. Munn (Pittsburgh).

4527. Schaff, W. *Raum- und Materialunterscheidung bei der grauen Hausmaus.* (Spatial discrimination and discrimination of materials in the common gray mouse.) *Zsch. f. vergl. Physiol.*, 1933, 18, 622-653.—When a crevice in a barrier that obstructs a passage is too small for a mouse to slip through, he begins at once to gnaw at its edges. If more than one such crevice is present, the mouse sets to work at the widest with little hesitancy (no mistakes were made by eleven mice in 37 experiments). The sensory control over this discrimination appears to be mediated by receptors in the snout, which are stimulated by air currents through the apertures. In these experiments, mice did not react readily to holes that were not broken through; further, the animals discriminated with equal readiness in dark and in lighted passageways. When the obstructing wall lacked crevices, no preference for the rough over the smooth half of the wall was observed.—T. C. Schneirla (New York University).

4528. Schiller, P. v. *Intersensorielle Transposition bei Fischen.* (Inter-sensory transposition in fishes.) *Zsch. f. vergl. Physiol.*, 1933, 19, 304-309.—Minnows that had been trained to swim into a chamber illuminated with light of intermediate brightness rather than into the dark chamber of a pair, were then presented with a pair of olfactory stimuli, an effect of "intermediate brightness" ( $C_6H_5N$ , "musky") and a "dark" effect ( $C_6H_7N$ , "fecal"). A 76-85% response to the "brighter" olfactory stimulus was taken to indicate the existence of a functional relationship between brightness vision and olfaction, as postulated by Hornbostel for man.—T. C. Schneirla (New York University).

4529. Schneirla, T. C. *The process and mechanism of ant learning. The combination-problem and the successive-presentation problem.* *J. Comp. Psychol.*, 1934, 17, 303-328.—The combination problem consisted in running through the maze pathway to reach the food box and running through the same maze pathway, but with the entrance at the food box (maze rotated 180°) to return to the nest. None of the ants mastered this problem. Only one ant showed any significant signs of progress. The successive-presentation problem consisted in learning the nest-to-food pathway and then learning the food-to-nest pathway as a separate problem. There was no evidence that learning the maze while running in one direction aided learning while running in the other direction. This absence of transfer is regarded by the author as perhaps due to the different conditions of motivation involved in the two situations.—N. L. Munn (Pittsburgh).

4530. Schneirla, T. C. *Some important features of ant learning.* *Zsch. f. vergl. Physiol.*, 1933, 19, 439-452.—European investigators of ant orientation have not paid sufficient analytical attention to the importance of learning for the phenomenon. Brun's *Fixierversuch* is considered in connection with an experiment concerning the manner in which ants may



adjust to the constant change in sunlight which comes about during a series of foraging trips. The necessity of learning for the coming into effect of given sensory controls in orientation is further illustrated in terms of the ability of ants to adjust to experimentally introduced changes in learned maze problems. Both the "sensory plasticity" and the "motor adaptability" to be seen in ant learning ultimately rest upon the same basis. Some evidence is cited for the existence of species differences in learning ability. The possibility of individual differences in learning capacity is shown by a contrast of the performances of two different individuals in the same difficult maze problem.—*T. C. Schneirla* (New York University).

4531. **Sears, R. R.** Effect of optic lobe ablation on the visuo-motor behavior of goldfish. *J. Comp. Psychol.*, 1934, 17, 233-265.—The fish were placed in a mesh basket suspended in water. Their responses to light (eye movements and start reflexes) and to a stream of water (balancing, reorientation and flight) were observed before and after partial ablation of the optic lobes. The operation "did not affect either the eye-movement reflex or the start reflex to a bright light stimulus. Neither qualitative nor quantitative changes were observed in the process of conditioning motor responses to light stimuli following operation. Preoperatively learned responses were retained without apparent change after the operation. There was some evidence that the process of experimental extinction took place more rapidly following removal of the optic cortex." Bibliography and several plates illustrating cross-sections of the brain of the goldfish.—*N. L. Munn* (Pittsburgh).

4532. **Segall, J.** Versuche über Lichtreaktionen und Lichtempfindlichkeit beim Regenwurm. (Experiments on reactions to light and on light sensitivity in the earthworm.) *Zsch. f. vergl. Physiol.*, 1933, 19, 94-109.—The light-adapted worm fails to react to the sudden total darkening of its body surface, although shading of a given local area elicits a prompt response. The observed response was similar to a photonegative reaction, although characterized by a reaction time which was found to be longer than that of the latter reaction. Time of reaction was the same whether the local darkening acted upon a light-adapted or upon a dark-adapted worm. To account for these results the Hecht theory must be extended to include a consideration of events in the central nervous system.—*T. C. Schneirla* (New York University).

4533. **Sgonina, K.** Das Helligkeitsunterscheidungsvermögen der Elritze (*Phoxinus laevis*). (The capacity for brightness discrimination in the minnow *Phoxinus laevis*.) *Zsch. f. vergl. Physiol.*, 1933, 18, 516-523.—Three minnows trained to snap at white as against black were then presented with successive pairs of Hering gray papers. Discrimination of brightnesses in the median range was found to follow Weber's law. The ratio was found to be approximately 4:1.—*T. C. Schneirla* (New York University).

4534. **Shirley, M.** Notes on the behavior of cats deprived of the chief adrenin-secreting mechanism. *J. Comp. Psychol.*, 1934, 17, 149-155.—Cats which had been deprived of the adrenal glands manifested, before their death some 20 to 166 hours later, typical fear, escape, hunting, killing, and sex behavior. The author suggests that these forms of behavior may have "comprised only habit responses, conditioned through much practice to the particular stimuli presented, and that no general upset of the organism that could properly be called an emotion occurred."—*N. L. Munn* (Pittsburgh).

4535. **Studnitz, G. v.** Studien zur vergleichenden Physiologie der Iris. III. Selachier. (Studies on the comparative physiology of the iris. III. Selachians.) *Zsch. f. vergl. Physiol.*, 1933, 19, 619-631.—The difference threshold of the isolated dogfish iris is approximately that of the isolated frog or eel iris, viz., .6 to 1-fold increases in intensity brought in these experiments detectable changes in diameter, as did  $\frac{1}{2}$  to  $\frac{1}{3}$  decreases in intensity of illumination. The course of dilatation and contraction was found to be continuous. The author considers the involvement of the retina and other nervous centers in the pupillary response of selachians.—*T. C. Schneirla* (New York University).

4536. **Studnitz, G. v.** Studien zur vergleichenden Physiologie der Iris. IV. Reptilien. (Studies on the comparative physiology of the iris. IV. Reptilia.) *Zsch. f. vergl. Physiol.*, 1933, 19, 632-647.—Constant oscillations in diameter were observed in the iris under illumination, but this effect disappeared when the optic nerve was sectioned. The involvement of retina and of central nervous system in the iris response was further indicated by the longer reaction time of the iris in a removed eye, by the perseverance of the reaction, and by dilatation of the iris following sectioning of the optic nerve (lizard, turtle, ring snake). The sluggish course of the pupillary reaction in the turtle and lizard militates against its importance for normal behavior. The difference in pupillary diameter under illumination with 10 lux and with 2000 lux is  $1\frac{1}{2}$ , approximately the same as that for the frog. Average contraction time to intensities between 16 lux and 1000 lux was .96", which is shorter than in the case of the frog.—*T. C. Schneirla* (New York University).

4537. **Tonner, F.** Das Problem der Krebschere. (The problem of the crab's claw.) *Zsch. f. vergl. Physiol.*, 1933, 19, 762-784.—To explain the Biedermann phenomenon, both tonic and transitory components of excitation and inhibition in the action of the cheliped must be considered. This phenomenon is not dependent upon Wedensky inhibition, as Fraenkel-Conrat claims. Impulses from the central ganglion chain may bring increases or decreases in the tonus of the pincer only through action on the *Hautnervensystem*, the local plexus in the pincer. Increases in tonicity produced through this peripheral system represent Wiersma's "slow contractions," and follow a *Treppe* course as the intensity of stimulation is increased. The opener may be directly inhibited

through central control, or inhibited through tonic decrease through the peripheral plexus, and may be excited directly through central ganglia (Wiersma's "rapid contraction") or indirectly through the peripheral system. In contrast, the closer may be inhibited only by means of action upon the local plexus, although closing may be excited either directly (centrally: "rapid contraction") or indirectly (local plexus: "slow contraction"). An anatomical and a physiological scheme summarize the discovered facts.—T. C. Schneirla (New York University).

4538. Totze, R. Beiträge zur Sinnesphysiologie der Zecken. (Contributions to the sensory physiology of the tick.) *Zsch. f. vergl. Physiol.*, 1933, 19, 110-161.—Olfaction was found to be the dominant type of sensitivity involved in controlling the tick's progress to a host. Ticks deprived of the Haller organ (by the loss of the first pair of legs) were caused to suck on gelatin and fluids such as 3% acetic acid. However, such feeding usually was terminated sooner than the normal act would have been, a fact which indicates the inhibiting effect of stimuli released from the digestive tract. Lacking the olfactory organs, ticks found feeding places through their responses to the combined effect of temperature and moisture. Ticks were found very sensitive to temperature variations. Their normal temperature optimum was ascertained to lie between 16° and 18° C. Empty ticks were found positive to light which was not too intense, while satiated ticks moved from illuminated places.—T. C. Schneirla (New York University).

4539. Wahl, O. Beitrag zur Frage der biologischen Bedeutung des Zeitgedächtnisses der Bienen. (Contribution to the question of the biological significance of the temporal memory of the bee.) *Zsch. f. vergl. Physiol.*, 1933, 18, 709-717.—A food place was provisioned with a saturated (60%) nectar during a two-hour period which was the same on each of seven days; and at other hours of the day a 20% nectar was available. After this training, the bees were able to visit the food place in greatest numbers at the beginning of this two-hour period, and visited it in definitely less numbers at other times of day. In another experiment, evidence was obtained for the possibility of setting up two such daily maxima for a given hive. This fact is of significance in view of the manner in which the nectar secretion of many flowers varies during the hours of the day.—T. C. Schneirla (New York University).

4540. Wassiljew, M. P. Über das Unterscheidungsvermögen der Vögel für die hohen Töne. (Concerning the bird's discrimination capacity for high tones.) *Zsch. f. vergl. Physiol.*, 1933, 19, 424-438.—Using the Bajandurov method, to a harnessed bird the tone of an Edelmann whistle (actuated from a pressure tank) was presented simultaneously with a leg shock. Conditioning was obtained within 40-60 trials. The upper threshold was found to lie between 11,000 and 12,000 v.d. per second, but individual differences were marked. High tones were differentiated more readily than were low tones. The capacity of the bird to discriminate between vibration

rates is compared with that of the dog (Kalisher is cited in this matter, but not H. M. Johnson).—T. C. Schneirla (New York University).

4541. Wiersma, C. A. G. Vergleichende Untersuchungen über das periphere Nerven-Muskelsystem von Crustaceen. (Comparative studies on the peripheral nerve-muscle system of Crustacea.) *Zsch. f. vergl. Physiol.*, 1933, 19, 349-385.—The "rapid contraction" of the crab's pincer does not appear subject to inhibition; the opener is readily inhibited, whereas the closer is inhibited only occasionally. The rapid contraction, elicited by direct current stimuli of short duration, displayed a *Treppe* phenomenon as intensity of stimulation was increased, and hence is subject to the all-or-none law. The contraction of the opener is generally similar to the "slow contraction" of the closer. Occasionally observed veratrinic characteristics in galvanometric records of the former suggest that both types of contraction may be referred to a single axon.—T. C. Schneirla (New York University).

4542. Windle, W. F. An explanation of the first reflexes of cat embryos on the basis of development of reflex arcs. *Amer. J. Physiol.*, 1934, 109, 113.—Abstract.—C. Landis (N. Y. Psychiatric Institute).

4543. Wojtusiak, R. J. Über den Farbensinn der Schildkröten. (Concerning the color sensitivity of the turtle.) *Zsch. f. vergl. Physiol.*, 1933, 18, 393-436.—Ostwald pigmented papers and Hering gray papers were presented on forks much as they were by Wagner ("warning color" accompanied by quinine-soaked food). In a second series of experiments, spectral lights were employed. Evidence was obtained that five principal colors—red, yellow, green, blue and violet—may be distinguished one from another and from gray values. The turtle's visible spectrum was found to lie between 760 mμ and 401 mμ, with one maximum near 634 mμ and a second below 504 mμ. In brightness discriminations the turtle appears able to distinguish only widely separated grays.—T. C. Schneirla (New York University).

4544. Yerkes, R. M. Modes of behavioral adaptation in chimpanzee to multiple-choice problems. *Comp. Psychol. Monog.*, 1934, 10, No. 1. Pp. 108.—The four chimpanzees used in this experiment failed to solve the following multiple-choice problems: the box second from the right, the middle box, and alternately the right and left end boxes. They solved the following problems: the box at the left end, the box at the right end, and the same box from trial to trial regardless of the setting. The author presents a detailed analysis of the types of reaction. He says that "direction, distribution, and concentration of attention are exhibited by this investigation as primary conditions of problem solution and perfection of adaptation. . . Attention, it would seem, must be mobile, fluctuating, and all-embracing, yet also capable of fixation once the essential relation is happened upon, and identified with satisfaction." The author points out that automatisms are prejudicial in attempting solution of multiple-choice

problems, since these problems necessitate the progress of adaptation through discovery. "That problem solution in many instances (approximately 50 per cent) resulted from sudden discovery of the significant relationship and not from the gradual elimination of incorrect responses by blind process of trial is indicated by (a) abrupt change in frequency of errors from 30 per cent or more to 0; (b) lack of evidence that either the specific settings (groups of mechanisms presented) or the constant order of such settings are learned; and (c) ability of the subject to respond correctly with ease and assurance to a new (control) series of settings which differs markedly from the one originally mastered." Many other characteristics of the animals' behavior are listed and discussed in detail. Bibliography.—N. L. Munn (Pittsburgh).

4545. Zahn, W. Über den Geruchssinn einiger Vögel. (Concerning the olfactory sense of certain birds.) *Zsch. f. vergl. Physiol.*, 1933, 19, 785-796.—Untreated food, with or without an olfactory accompaniment, was presented beside treated food (negative) with or without an olfactory accompaniment. Evidence was found that birds of a number of species (robin, blackbird, garden warbler, blue titmouse) were sensitive to the distinctive olfactory properties of chemicals such as attar of roses, oil of cloves, amyl acetate, anise oil, and others.—T. C. Schneirla (New York University).

[See also abstracts 4342, 4397, 4398, 4414, 4415, 4417, 4422, 4433, 4434, 4439, 4443, 4449, 4461, 4482, 4548.]

#### EVOLUTION AND HEREDITY

4546. Carter, H. D. Case studies of mature identical twins. *J. Genet. Psychol.*, 1934, 44, 154-174.—A pair of monozygotic twins, women aged 43 years, were studied intensively by the use of standard physical and psychological tests, observations, and interviews. Though they had had very similar environments in early life, their adult environments were considerably different, especially as regards travel, city life, and teaching work. In spite of this their present personality traits were found to be strikingly similar, even in their interests as measured on standard inventories. The author offers suggestions for studies of twins.—J. F. Dashiell (North Carolina).

4547. Cummins, H., & Mairs, G. T. Finger prints in conjoined twins. *J. Hered.*, 1934, 25, 237-243.—B. S. Burks (California).

4548. Dunn, L. C. A new gene affecting behavior and skeleton in the house mouse. *Proc. Nat. Acad. Sci.*, 1934, 20, 230-232.—"A new recessive mutant character has recently appeared in the house mouse which is unusual in combining effects similar to those associated with two previously known genes. The new mutation is known as shaker-short. It is recognizable at birth by the shortened tail which varies from no bony tail at all to three-fourths of the length of the normal tail. Beginning at five days of age, the new mutant type shows severe disturbances in equi-

bration. As adults the mutants show marked lack of coordination. The fertility of eight adult mutants has been tested by matings with normal mice. All have been completely sterile."—W. N. Hallett (Cedar Crest).

4549. Galashian, A. G. [The clinical genetic analysis of the G. family.] *Soviet. neuropatol.*, 1933, 2, No. 5, 39-50.—Five generations of a family in which 9 cases of schizophrenia were found were analyzed, and the autosomic-recessive nature of schizophrenia was determined. The members of the family all show schizoid character traits. In all the cases the psychosis was a result of a combination in two parents of psychopathic traits of a schizoid kind, i.e., of two heterozygotes of schizophrenia.—A. Yarmolenko (Lenin-grad).

4550. Gray, J. L., & Moshinsky, P. Studies in genetic psychology. The intellectual resemblances of collateral relatives. *Proc. Roy. Soc. Edinburgh*, 1933, 53, 188-207.—The children investigated were pairs of sibs (brothers and sisters of different birth-rank) and pairs of first cousins in elementary schools in London. The ages of the children tested were between 9 and 12-6. The test used was the Otis Advanced Group Test, Form B. The results are comparable throughout with those of a previous investigation conducted by Herrman and Hogben on the intellectual resemblance of twins (*Proc. Roy. Soc. Edinburgh*, 1933, 53, 105-129). In Herrman and Hogben's investigation, the result was established that a greater intellectual resemblance between identical twins ( $.84 \pm .04$ ) exists than between fraternal twins of like sex ( $.47 \pm .08$ ) or of mixed sex ( $.51 \pm .06$ ). In the present investigation, the correlation for sibs is  $.35 \pm .05$ , compared with Herrman and Hogben's  $.32 \pm .09$ . "In our view," the investigators write, "the results justify the conclusion that the difference between the resemblance of fraternal twins and ordinary sibs is as firmly established as the difference between the resemblance of identical and fraternal twins." A discussion follows as to the possible explanation, and whether environmental differences meet the case. The correlation of first cousins in intellectual ability works out at  $.16 \pm .06$  (313 cases). The tentative explanation is put forward that in a comparatively homogeneous social group the differences which distinguish the environment of individuals of different birth rank within the same family are of greater significance than differences of environment which distinguish individuals of the same birth rank in different families. The possible existence of sex-linked gene differences with respect to intelligence is also discussed.—M. Collins (Edinburgh).

4551. Herrman, L., & Hogben, L. The intellectual resemblance of twins. *Proc. Roy. Soc. Edinburgh*, 1933, 53, 105-129.—The investigations were carried out on elementary school pupils attending London County Council Schools, the ages of the children ranging from 8 to 14. Comparison was made of the response of twins and of siblings to the Otis Group Intelligence Test (Advanced Form A). The correla-



tion coefficients obtained were: for monozygotic twins  $.84 \pm .04$ , for dizygotic twins of like sex  $.47 \pm .08$ , for dizygotic twins of unlike sex  $.51 \pm .06$ , for sibs (like or mixed pairs)  $.32 \pm .09$ . Other factors are considered, such as the influence of birth rank in the sibling group (the first born seems to have a distinctly higher IQ than the second born), the contribution of nature and nurture to observed differences in the IQ of twins, and the contribution of sex-linked genes to differences in IQ.—*M. Collins* (Edinburgh).

4552. Hofsten, N. v. Steriliseringens frågan ur rashygienisk synpunkt. (The question of sterilization from the viewpoint of race hygiene.) *Svensk. läkart.*, 1934, 31, 641-642.—This is a review of the above publication of the Swedish Association for Mental Hygiene. The various complications inherent in the problem of sterilization are discussed. Schizophrenic predispositions are said to be found in approximately 50% of the general population. Sterilization is recommended for feeble-minded, insane, and certain psychopathic individuals.—*V. Coucheron-Jarl* (Mooseheart Laboratory for Child Research).

4553. Hogben, L. The effect of consanguineous parentage upon metrical characters of the offspring. *Proc. Roy. Soc. Edinburgh*, 1933, 53, 239-251.—Two problems are studied in this paper: (1) the effect of consanguineous parentage upon the correlation of offspring, (2) the comparison of the variance of a group of individuals with consanguineous parents with that of a group of individuals with unselected parents taken from the same social environment. The inquiry is confined to unions between first cousins. The formulae used are those expounded in a previous paper in the same journal by the same author (vol. 53, pp. 7-25, *A Matrix Notation for Mendelian Populations*). The main results may be stated thus: first-cousin parentage does not raise the fraternal correlation, when transmission is autosomal, to any extent; but the correlation for mixed sibs whose mothers are sisters is appreciably higher than that for sibs of unrelated parents, when transmission is sex-linked. As regards variance, it was found that in the case of offspring of unions of first cousins it was very large compared with that of offspring of unrelated parents when (1) the degree of dominance is very high, (2) the frequency of recessive genes which contribute to the observed variability is low.—*M. Collins* (Edinburgh).

4554. Hurst, C. C. The genetics of intellect. *Eug. Rev.*, 1934, 26, 33-45.—Reports on 194 Leicestershire families and Woods' material on royal families in relation to the author's genetic hypothesis that intellect can be accounted for by 1 major pair of genes and 5 pairs of minor modifiers.—*B. S. Burks* (California).

4555. Molson, H. Voluntary sterilization. *Eug. Rev.*, 1934, 26, 47-50.—A plea for legalizing voluntary sterilization offered before the House of Commons on February 28, 1934.—*B. S. Burks* (California).

4556. Newman, H. H. Mental and physical traits of identical twins reared apart. *J. Hered.*, 1934, 25,

137-143.—The author's ninth pair are boys of nineteen who lived only three miles apart and attended the same high school. "In this case, where there were no pronounced differences in any feature of the environment, there were no pronounced differences in any of the three classes of traits, physical, mental, and temperament-emotional."—*B. S. Burks* (California).

4557. Stern, H. J. Vergleichende Untersuchungen des Augenhintergrundes bei Zwillingen. (Comparative investigations of the fundus oculi in twins.) *Klin. Monatsbl. f. Augenhk.*, 1933, 90, 215-222.—*R. R. Willoughby* (Clark).

4558. Whitney, L. F. The case for sterilization. New York: Stokes, 1934. Pp. 309. \$2.50.—*R. R. Willoughby* (Clark).

[See also abstracts 4470, 4592, 4604, 4605, 4676.]

## SPECIAL MENTAL CONDITIONS

4559. Bergler, E. Motifs inconscients de l'attitude de Napoléon à l'égard de Talleyrand. (Unconscious motives in the attitude of Napoleon toward Talleyrand.) *Rev. fr. psychanal.*, 1933, 6, 409-457.—The historical facts are reviewed, extracts from Talleyrand's *Memoirs* quoted and other reference material given. There is a detailed psychoanalytic interpretation of Napoleon's relation to Talleyrand as repeating his infantile attitudes to the father.—*P. Blanchard* (Philadelphia Child Guidance Clinic).

4560. Bischler, W. Le rôle des zones érogènes dans la genèse du talent artistique. (The role of the erogenous zones in the genesis of artistic talent.) *Rev. fr. psychanal.*, 1933, 6, 475-482.—Psychoanalysis has uncovered the unconscious impulses and conflicts which are expressed in artistic work. But it is also possible to analyze the artist's choice of medium of expression, such as painting, writing or music, since unconscious motives enter into this choice as well as native talent. Fixations at oral, anal or genital levels, etc., are related to the choice of artistic medium. For example, anal interests may be sublimated in working with paints or materials used in sculpture; oral fixations and infantile interest in magic power of words lead to interest in writing, and so on.—*P. Blanchard* (Philadelphia Child Guidance Clinic).

4561. Bogen, E., & Hisey, L. W. S. What about alcohol? Los Angeles: Sci. Educ. Publ., 1934. Pp. 128. \$1.35.—Illustrated outline of scientific facts about alcohol and alcohol drinking written for elementary and high school students.—*R. R. Willoughby* (Clark).

4562. Borowiecki, S. Sen a calokszalt zycia psychicznego. (The dream and the whole of mental life.) *Rocznik psychiatryczny*, 1933, 21, 11-27.—A report is made of the dreams of two clinical cases, one of hysteria and one of a phobia. The importance of dream interpretation is based on the findings on the compensatory function of dreams, which give an account of the fundamental psychical tendencies with their contradictions and conflicts.—*S. Blachowski* (Poznan).

4563. De Saussure, R. *Psychologie génétique et psychoanalyse*. (Genetic psychology and psychoanalysis.) *Rev. fr. psychanal.*, 1933, 6, 365-403.—A description of the emotional development of the child as studied by observation and clinical methods, supplementing each other. The description chiefly concerns the phallic stage, the super-ego, and identifications with parents.—P. Blanchard (Philadelphia Child Guidance Clinic).

4564. Dill, D. B., Edwards, H. T., & Forbes, W. H. Tobacco smoking in relation to blood sugar, blood lactic acid and metabolism. *Amer. J. Physiol.*, 1934, 109, 118-122.—Smoking one cigarette produced no change in blood sugar, lactic acid or R.Q. The metabolic rate was increased 5 to 15% in some subjects.—C. Landis (N. Y. Psychiatric Institute).

4565. Dreikurs, R. *Zur Kasuistik der funktionellen Magendarmstörungen*. (The casuistics of functional disturbances of the digestive tract.) *Int. Zsch. f. Individ.-psychol.*, 1934, 12, 11-15.—Review of the case record of a woman patient. The disorder is analyzed as a means of escape from a feeling of inadequacy. The origin of this feeling is traced to childhood experiences incident to an unfortunately organized home life. The patient developed an extraordinary standard for perfection of conduct in others, was given to apprehension of the failures of others in their attitudes toward her, the while she was blind to her own social shortcomings. Psychological readjustment effectively eliminated the digestive disturbance. Dreikurs suggests that the evidence in such cases as this points to the probable influence on the autonomic functions of mental attitudes toward the outer world.—O. N. de Weerdt (Beloit).

4566. Freud, S. *On bat un enfant*. (A child is being beaten.) *Rev. fr. psychanal.*, 1933, 6, 274-297.—This article first appeared in *Int. Zsch. f. ärztl. Psychoanal.*, 1919, 5, and a translation into English appeared in the *Collected Papers*, 1925.—P. Blanchard (Philadelphia Child Guidance Clinic).

4567. Jekels, L., & Bergler, E. *Übertragung und Liebe*. (Transference and love.) *Imago*, 1934, 20, No. 1.—The difference between transference and love is that in love the ego-ideal alone is projected onto the object, as a substitute for the ego and for the narcissism, which were destroyed with the illusion of omnipotence. In transference the whole super-ego, ego-ideal and daemon (thanatos, in its aggression against the ego) is transferred, so that the object involved is the object both of love and of fear. In positive transference there is a narcissistic identification with the analyst, the latter representing to the patient either the ego or the ego-ideal, according to whether he desires to love or to be loved; and the patient assumes the complementary role. In negative transference the hatred of the patient's own ego appears as hatred of the analyst. This hatred screens love in many cases ("positive sublimation or transference, under the guise of negative"), or the aggression of the patient is only an attempt to prove the love of the analyst; the transference of aggression

from the ego to the object is unsuccessful. Thus the difference between sublimation and love widens as the implication of the super-ego increases. Progress in an analytic cure lies in pushing back projection of the daemon onto the analyst in favor of the ego-ideal.—M. J. Powers (New York).

4568. Klossowski, P. *Éléments d'une étude psychanalytique sur le Marquis de Sade*. (Elements of a psychoanalytic study of the Marquis de Sade.) *Rev. fr. psychanal.*, 1933, 6, 458-474.—The article is composed of two chapters from a book on sadism which is being prepared by the author. The chief themes recurring in De Sade's writings are psychoanalytically interpreted in the light of the negative Oedipus complex, etc.—P. Blanchard (Philadelphia Child Guidance Clinic).

4569. Krausz, E. O. *Die Fehlerquellen der Psychoanalyse*. (The sources of error in psychoanalysis.) *Int. Zsch. f. Individ.-psychol.*, 1933, 11, 416-450.—The article presents a critical review of Freud's recent publication, *New Introductory Lectures on Psychoanalysis*. Krausz's main criticism is that Freud is atomistic in analyzing the personality into separable functions such as repressions, dreams, and the unconscious, and in positing emotional traumata as ultimate causes. In discussing Freud's treatment of dreams he is quoted as asserting that "the chief interest lies in the mechanism which transforms the latent thoughts of a dream into the manifest content." This explanation was first found in an inhibiting factor, the censorship, and later in a "displacing-opposition." In order to remain scientifically atomistic Freud now adds the concept of the "super-ego" as the unifying principle of these dream factors. This concept, asserts Krausz, is synonymous with Adler's social feeling (*Gemeinschaftsgefühl*) and cannot combine the abstractly developed factors of personality into a unified whole. The chief characteristic of Freud's concept of the preconscious is its extra-ego nature (*Ich-fremdheit*). The preconscious in this latest book is designated *id*, (*das Es*), possibly the "neutral factor." Thoughts and reactions repressed into the *id* show no deterioration even after a decade of lapse of time. The super-ego and the *id* are also both extra-ego concepts. What is left to constitute the true personality may be assigned to the "poor" self (*das arme Ich*); it is apparently little enough.—O. N. de Weerdt (Beloit).

4570. Krausz, E. O. *Die Weiblichkeit in der Psychoanalyse*. (Womanhood in psychoanalysis.) *Int. Zsch. f. Individ.-psychol.*, 1934, 12, 16-31.—A review and criticism of Freud's conceptions as expressed in a recent publication. Krausz shows that Freud's presentation is based on and in defense of the tradition of male superiority and of the notion of biologically differentiated sexual and social drives or instincts. Psychoanalytic studies of the genesis and development of the mental sex characters in boys and girls are therefore prejudiced, as are also the explanations of irregular sex expressions such as frigidity and homosexuality. These trends and dysfunctions are for Krausz and other followers of

Adler based on social influences and child training.—*O. N. de Weerd* (Beloit).

4571. Laforge, R. *Les résistances de la fin du traitement analytique.* (The resistances at the end of analytic treatment.) *Rev. fr. psychanal.*, 1933, 6, 344-360.—A discussion of resistances toward the end of the analysis, with illustrations from several cases. One element of such resistances is described as anxiety with regard to taking up a new kind of life without the protection which the neurotic illness previously afforded. There is some discussion of techniques of handling these resistances.—*P. Blanchard* (Philadelphia Child Guidance Clinic).

4572. Mitschenko, M. J. [The peculiarities of conditioned reflex activity of hypnotics.] *Sovet. psikhonevr.*, 1932, No. 6, 63-67.—The following sequence of the hypnotic phases was established on different types of nervous system: the excitable type gives the most profound hypnotic phase—somnambulism; the balanced type in 58% gives hypotaxy, in 14% somnambulism, and in 28% no suggestibility; the inhibitive type in 59% is not suggestible, but a light hypotaxy is observed in 41%.—*A. Yarmolenko* (Leningrad).

4573. Odier, C. *Une névrose sans complexe d'oedipe?* (A neurosis without an Oedipus complex?) *Rev. fr. psychanal.*, 1933, 6, 298-343.—A three-year analysis of a man whose parents were dead and whose symptoms, sexual impotence and urinary and intestinal disorders, had their origin in experiences connected with toilet training and care by a nurse.—*P. Blanchard* (Philadelphia Child Guidance Clinic).

4574. Piaget, M. J. *La psychanalyse et le développement intellectuel.* (Psychoanalysis and intellectual development.) *Rev. fr. psychanal.*, 1933, 6, 405-408.—Emotional and intellectual development are complementary aspects of psychic activity and have certain parallel characteristics. As thought is disciplined by social life it is conceptual, while individual thought is symbolic. The symbolic thought arising from individual experience has been chiefly studied in psychoanalysis. As symbolic thought is considered to represent repressed, unconscious impulses, it is antilogical; as it is an elementary form of thought it may be prelogical. Instead of a reservoir of memories, the unconscious is a system of active psychic processes.—*P. Blanchard* (Philadelphia Child Guidance Clinic).

4575. Sachs, H. *Die Verspätung des Maschinenalters.* (The delay of the machine age.) *Imago*, 1934, 20, 78-94.—Analysis of the psychological reasons for the failure of classic antiquity to use machinery for economic purposes, in spite of marked advances in theoretical science and in the utilization of mechanics in play. The ancient world turned machinery into play through repugnance, due to narcissism. The machine is, by appearance and by observation on the "influencing machine" in schizophrenics, a simulacrum and projection of the human body. (Thus, in schizophrenia the so-called "influencing machine," which is one of the patient's complaints, has been found to be a defense against

narcissism, taking the form of a projection of the patient's body into the outer world.) The well-known narcissism and attachment to body-ego of the ancient world produced an inner conflict, which was of course feebler than in psychotics. The conflict, instead of resulting in delusional creation of machines through projection of the individual's excessively loved ego, resulted in an inhibition of fantasy activity tending in the direction of a simulacrum of the ego—that is, in the direction of the machine. The role of narcissism in the classic world—in its art and homosexuality—supports this assumption. The Italian renaissance, paralleling classic civilization, despite the presence of inventive genius, was likewise relatively barren of scientific discoveries of much practical value.—*J. W. Gassner* (New York City).

4576. Servadio, E. *The psychic mechanism of telepathic hallucination.* *J. Amer. Soc. Psych. Res.*, 1934, 28, 149-158.—*R. R. Willoughby* (Clark).

4577. Severn, E. *The discovery of the self; a study in psychological cure.* Philadelphia: McKay, n. d. Pp. 224. \$3.00.—*R. R. Willoughby* (Clark).

4578. Wolff, W. *Ein Forschungsbericht. Grundlegung einer experimentellen Tiefenpsychologie.* (A research report. Foundation of an experimental psychology of the unconscious.) *Imago*, 1934, 20, No. 1.—In attacking the experimental study of character or personality in a rigidly logical way the following method evolves: (1) Examination of forms of expression, voice, hand, profile, etc., rather than the person himself, mostly without his knowledge—by means of parlographs, photographs, etc. (2) Judgment by a number of judges, thus eliminating the interpreter and even getting the types of interpreters through those differing from the majority. (3) Arrangement of the results of all combinations and comparisons. (4) Arrangement of the characteristics on the basis of a form of expression in the character picture gained in actual experience with the subject. (5) Evaluation of the form of expression for the character under observation. The results indicate unity of character, coincidence of expression and character, accuracy of material, and ability of the interpreter. In the same way it is possible to evolve a method for dynamic character study. Proof of the manifestations of the unconscious is only another step.—*M. J. Powers* (New York).

[See also abstracts 4375, 4423, 4458, 4611, 4612, 4679, 4812.]

#### NERVOUS AND MENTAL DISORDERS

4579. Bakhtiarov, V. [The problem of narcolepsy.] *Sovet. neuropatol.*, 1932, No. 8, 405-440.—Two cases of narcolepsy are described, one of sexual, the other of the defense-reflex origin. It seemed that the patient, as a result of periodic or chronic traumatic stimuli, had formed defensive conditioned reflexes, which resulted in sleep as an irradiated inhibition of the whole nervous system, including the mesencephalon. The guarding point is awake, which allows the patient to make contact with the environment.—*A. Yarmolenko* (Leningrad).



4580. Barilari, M. J., & Asnaourow, F. *Sintonopsiquia y neurosis*. (Syntonopsychia and neurosis.) *Rev. med. Latino-Americana*, 1932, 206.—The term *syntonopsychia* is used to designate the relationship between an attending physician and his patient. This relationship is obviously reciprocal. In order to do his part the physician must be alert to understand his patient and to recognize his somatic type forthwith (sympathicotonic, vagotonic, etc.). He must also have all practical psycho-therapeutic methods at his ready command and, if required, be able to proceed eclectically. Since the patient's confidence must be secured, it is advisable to "impress him with the superiority and scientific authority of the physician." In the case of nervous or mental patients, who are generally overwhelmed with the self-suggested superiority of others, this rule might work out unfortunately if blindly followed.—O. N. de Weerd (Beloit).

4581. Bjerre, P. Hitler som psykoterapeut. (Hitler as a psychotherapist.) *Hygiea*, 1934, 96, 81-93.—The writer offers comments on a letter received from the Deutsche Allgemeine Ärztliche Gesellschaft für Psychotherapie. Quoting from the letter: "This association has the aim and task—under unconditional faith in Adolf Hitler, the leader of the German people—to organize those German physicians who are willing to build up and to practice a psychotherapy in accordance with the *Weltanschauung* of national socialism."—V. Coucheron-Jarl (Mooseheart Laboratory for Child Research).

4582. Bonhour, A. Sobre tres casos de demencia senil. (Three cases of senile dementia.) *Rev. de crim. psiquiat. y med. leg.*, 1934, 21, 14-33.—A history of views concerning senescence is given. Clinical and anatomopathological observations of three cases (two habitually alcoholic, ages 63 and 71 years, another non-alcoholic, 64 years) led to the following conclusions: (1) in all three cases the symptoms had reappeared periodically and with growing insidiousness; (2) symptoms are correlated with anatomical deterioration in all of the cases observed; arteriosclerosis is a common etiological factor; (3) the three clinical types coincide with a scheme of classification based upon the existence of fundamental lesions. Bibliography.—R. M. Bellows (Ohio State).

4583. Borowiecki, S. Stosunek jednostki do otoczenia w nerwicach. (The relation between the individual and the environment in the neuroses.) *Rocznik psychiatryczny*, 1932, 18-19, 173-207.—The author stresses the social aspects of neurotic conflict and defines the neurosis as a kind of "difficulty of relation" with society.—S. Blachowski (Poznan).

4584. Bowman, K. M., & Kasanin, J. Constitutional schizophrenia. *Amer. J. Psychiat.*, 1933, 13, 645-658.—151 cases of schizophrenia were studied from the psychiatric, psychological, physical and social angles. A study of the etiological factors in these cases indicates that constitutional factors surpass others in incidence and importance. The authors point out, however, that they "did not feel that schizophrenia was necessarily due to a single

cause," and that they believe "that schizophrenia usually arises on the basis of multiple causations." The authors describe what they consider as a typical case of constitutional schizophrenia.—N. Goldman (Boston Psychopathic Hospital).

4585. Budina, —, & Kenzik, A. [The biogenetic method in psychoneurology.] *Sovet. psikhonevr.*, 1932, No. 4, 5-14.—A series of facts are given, which lead to a doubt of the application of the biogenetic law to the explanation of pathological events in the central nervous system. The organogenic law of Meynert is discussed.—A. Yarmolenko (Leningrad).

4586. DeSanctis, F. *Psicologia e psicopatologia*. (Psychology and psychopathology.) *Riv. di psicol.*, 1934, 30, 1-12.—The author shows how the methods of modern psychology, which takes into account the facts of biology, are best adapted for furthering the study of mental pathology both in theory and in its practical applications.—T. M. Abel (Sarah Lawrence).

4587. Ebaugh, F. G. The importance of introducing psychiatry into the general internship. *J. Amer. Med. Asso.*, 1934, 102, 982-986.—In studies recently completed by the National Committee for Mental Hygiene it was shown that 42% of grade A medical schools have not yet created clinical psychiatric facilities to be used in the general teaching schedule. There is a lack of psychiatric teaching personnel in approximately 85% of the schools visited. Of 6,204 interns serving in hospitals approved for internship by the American Medical Association only 20.6% were receiving psychiatric service. The author recommends that psychiatry be represented in the general internship as part of the basic preparation for the practice of medicine and that such training be considered as a requirement for licensure.—D. J. Ingle (Minnesota).

4588. Emerson, H. Wer ist unheilbar? (Who is incurable?) *Int. Zsch. f. Individ.-psychol.*, 1934, 12, 5-10.—Present-day expressions of interest in euthanasia, whether for the relief of a suffering individual or of a burdened society, are attacked. The mistaken diagnosis of functional disturbances as physiological and incurable, the relative character of the term "chronic ailment," and the phenomenal progress in successful medical treatment are advanced as arguments against any defense of euthanasia. Pasteur, Stevenson, Trudeau, Helen Keller, et al., we are reminded, made notable contributions while incurably handicapped.—O. N. de Weerd (Beloit).

4589. Epstein, A. [The methods of muscular tonus investigation on insane patients.] *Sovet. psikhonevr.*, 1932, No. 6, 85-96.—The quantitative changes of muscular tonus of insane patients were studied with a new device constructed by the author. This device shows the limit of the flexion of the extremities. On normal adults the muscular tonus is symmetrical in both arms; their mean is 19-83°. 35% of the insane show pathological deviations of muscular tonus. These experiments can be used as a means for the early diagnosis of psychoses.—A. Yarmolenko (Leningrad).

4590. Fedorov, S. J. [The memory of mentally defective children.] *Sovet. neuropatol.*, 1933, 11, No. 6, 41-60.—A. Yarmolenko (Leningrad).

4591. Friedmann, B. D. [The peculiar characterological changes of schizophrenics with heterogeneous etiology.] *Sovet. neuropatol.*, 1933, 2, No. 5, 17-23.—The analysis of the influence of the schizophrenic process on the affective sphere (cheerful cycloids and sthenic epileptoids) shows us that under the influence of disease these constitutional traits do not disappear, but only change, losing an emotional component. This distinguishes schizophrenia with a heteronomous etiology from the classical schizophrenia.—A. Yarmolenko (Leningrad).

4592. Galashian, A. G. [Psychoses of the siblings of schizophrenics.] *Sovet. neuropatol.*, 1933, 2, No. 1, 91-103.—A. Yarmolenko (Leningrad).

4593. Hahn, R. Heilpädagogik und Fürsorge. (Therapeutic pedagogy and institutional care.) *Fortsch. Neur. Psychiat. u. Grenzgeb.*, 1934, 6, 192-199.—This is a short article concerned with various investigations in the field of mental hygiene and child development. The author discusses the work of Busemann on environment as a factor in personality building, also the developmental tests originated by C. Bühler and Hetzer, and several other pieces of work of a similar nature. There is a short bibliography.—D. S. Oberlin (Newark, Del.)

4594. Hall, G. W., & Mackay, R. P. The post-traumatic neuroses. *J. Amer. Med. Asso.*, 1934, 102, 510-513.—The authors believe that a part but not all the sequelae of head injury can be explained on the basis of cerebral pathologic changes. The exposition concerns the psychological factors underlying the neuroses occurring after head trauma. On the basis of the symptomatology the following threefold classification is given: (1) Post-traumatic neurasthenia is characterized by abnormal fatigue and irritability. (2) Post-traumatic anxiety neurosis. These patients showed marked anxiety and hypochondria. Headache is a common symptom. (3) Post-traumatic hysteria. Patients may show blindness, deafness, paralysis, anesthetics, and disturbances of gait or motion. These signs are almost always non-anatomic. It can frequently be demonstrated that evidence of neurosis was present prior to the injury. It is likely that those who develop post-traumatic neuroses already have the psychological basis for the breakdown and that the injury merely serves as a precipitant. Suggestions for treatment are presented.—D. J. Ingle (Minnesota).

4595. Hausmann, M. F. A method to objectively demonstrate thinking difficulties. *Amer. J. Psychiat.*, 1933, 13, 613-625.—"A method is reported which purports to demonstrate objectively 'thinking difficulties,' i.e., discrepancies between the general intellectual endowment and certain specific performances. It is hoped that this method can eventually be used to help to differentiate between 'depressive' and 'schizophrenic' reactions at an early stage." Intellectual endowment is judged from performance on test 6 of the Army Alpha intelligence test; a substitut-

tion type test is used to measure the spontaneous rate of performance; and two absurdities tests are used for gauging the patient's ability to notice incongruities in verbal and in visual material. In those cases where is found "a discrepancy between the speed of performance, their general mental equipment, and the performance in our test . . . we speak of a specific thinking impairment." By combining this method with the so-called "dart-throwing test" where the patient "bids" for his scores and then attempts to fulfil his contract the author feels that "a fair idea can be obtained of the depth involved in the disturbance." Case histories and performances of two patients are presented.—N. Goldman (Boston Psychopathic Hospital).

4596. Kaplinski, M. S., & Lusternic, R. E. [The ambulatory work therapy.] *Sovet. neuropatol.*, 1933, 2, No. 5, 51-56.—A. Yarmolenko (Leningrad).

4597. Kinberg, O. Familjemord av schizoid under emotionellt omtöckningstillstånd. (Family murder by a schizoid under emotional confusion.) *Svensk. läkart.*, 1934, 31, 489-512.—This is a very complete report and case history of a Swedish restaurant owner who killed his wife and two daughters in a state of "confused consciousness," with only partial recollection of the event. The history shows increasing economic difficulties. The patient is described as a constitutionally abnormal, apathetic, egoistic, introspective, schizoid personality with a tendency for temper tantrums and violent reactions. No criteria of an epileptic or hysteric nature were found. The father of the patient apparently was a schizophrenic. The court ordered hospitalization.—V. Coucheron-Jarl (Mooseheart Laboratory for Child Research).

4598. Lange, J. Depressionszustände in sonnenarmer Zeit. (Depressive conditions in sunless seasons.) *Dtsch. med. Woch.*, 1932, 58, 1911-1913.—Aside from the direct action of light on the skin, man is in some biological way (possibly through the endocrines) related to the course of the sun. Nevertheless Lange's researches bring out no evidence that depressive syndromes in organic brain disease or toxemias (among which schizophrenia and epilepsy might be included), or the depressive phase of manic-depressive psychosis predominate in fall and winter. The average person, however, knows that he "feels different" when there is no sunshine. The polar night tends to cause mild depressions among whites, and even in our latitude evidence points in the same direction. In winter more time is spent in sleep and less refreshment is obtained. The most sensitive index of mild depressive inhibition is difficulty in starting work. This is reflected in tardiness at industrial plants, which is at a maximum from November to January, and at a minimum in the spring.—M. E. Morse (Catonsville, Md.)

4599. Laubenthal, F. Ueber Pseudohysterie. (On pseudo-hysteria.) *Nervenarzt*, 1933, 6, 17-19.—Laubenthal's purpose is to reach by a theoretical path a grouping of pseudo-hysterical conditions (hysterical clinical pictures on an organic basis) which can be confirmed experimentally. His argument is: in hys-

terical patients personal evaluations tend to replace generally recognized objective values. In pseudo-hysteria a similar substitution would be expected, and in fact one finds a rigid narrowing to the personal evaluation, increased demand for immediate primitive fulfillments, and differences in accomplishment according to vital nearness to the personality. This last in particular is a symptom common to all hysterical reactions. The hyperphrenic conditions of encephalitics also permit such an interpretation.—*M. E. Morse* (Catonsville, Md.)

4600. Lovell, H. W., Waggoner, R. W., & Kahn, E. A. Critical study of a case of aphasia. *Arch. Neur. & Psychiat.*, 1932, 28, 1178-1181.—The patient was born right-handed, and learned to write normally with the right hand. At the age of 10 the right hand had to be amputated, and he relearned writing, with the left hand. Several years later, following an injury, a right-sided cerebral lesion associated with motor and sensory aphasia developed. After surgical removal of a cyst, there was marked improvement of symptoms. The case suggests the possibility that cerebral dominance is related to the side which is most used and is therefore a secondary characteristic rather than a primary one.—*D. G. Marquis* (Yale).

4601. Markov, D. A. [Chronaximetry and the diseases of the central nervous system.] *Sovet. neuropatol.*, 1933, 2, No. 6, 54-85.—*A. Yarmolenko* (Leningrad).

4602. Markov, D. A., & Kantor, N. G. [Chronaximetry in the diseases of the peripheral nervous system.] *Sovet. neuropatol.*, 1933, 2, No. 5, 66-96.—The investigation of nervous diseases has shown that poliomyelitis gives a chronaxy with large fluctuations of chronaximetric values, and amyotrophic sclerosis gives a contrasting chronaxy. Special work experience connected with pattern movements can give new chronaximetric groups, differentiation, and even new chronaxic points.—*A. Yarmolenko* (Leningrad).

4603. O'Brien, J. D. An outline of psychiatry for clergymen, seminarians, social workers and educators. St. Louis: B. Herder, 1934. Pp. 278. \$2.00.—*R. R. Willoughby* (Clark).

4604. Petré, A. Från riksdagen. (From the Congress.) *Svensk. läkart.*, 1933, 30, 1396-1402.—The article summarizes some proposed changes in Swedish medical laws. Incurable mentally diseased, epileptic, and feeble-minded persons should be sterilized, even though the consent of the patient be not secured. Homosexuality and zoerastia should not be subject to legal punishment except in very specific cases. It is recommended that further elaboration of the proposed changes be left for the consideration of a committee.—*V. Coucheron-Jarl* (Mooseheart Laboratory for Child Research).

4605. Pogibko, J., & Shifrin, A. [The casuistics of the genealogy of schizophrenia.] *Sovet. neuropatol.*, 1932, No. 4, 61-64.—A rare case, in which in the 3rd generation from practically normal and healthy parents were found 4 insane siblings (3 were in hos-

pitals with the diagnosis of schizophrenia) and 2 pathological subjects of epileptoid-schizoid type. One of the last shows a schizophrenic process.—*A. Yarmolenko* (Leningrad).

4606. Popek, K. Paradipsie a primarni rozladova polydipsie u petileteho psychopata. (Paradipsia and primary ill-tempered polydipsia in a five-year-old psychopath.) *Rev. v neur. a psychiat.*, 1934, 31, 113-124.—A psychopathic boy of five years, whose ancestry showed a manic-depressive tendency on the maternal side and psychopathy with poriomanic impulsions and alcoholism on the paternal side, evinced bad temper lasting from one to three days, accompanied by the drinking of a great quantity of water and paradipsia in the form of drinking urine. The older sister also exhibited bad temper of short duration with poriomania and the drinking of an excessive quantity of water. The author believes that the primary polydipsia at the basis of the bad temper, found in both children and accompanied by poriomania in the girl, is genetically related to the dipomania of adults.—*E. F. Kemp* (Clark).

4607. Reiter, P. Nervöse mennesker. (Nervous people.) Copenhagen: Clausens Forlag, 1934. Pp. 68.—The book is intended to serve as a guide primarily for the mentally ill and his family. The following points are emphasized: All psychotherapy should have a solid, biological-scientific basis, and not, as with the psychoanalysts, be dependent upon autistic thinking. The analytic method is given credit, however, for having given positive results in certain cases of phobias. Administration of drugs for insomnia is disapproved, as is over-emphasis on suggestion as a therapeutic agency.—*V. Coucheron-Jarl* (Mooseheart Laboratory for Child Research).

4608. Sack, H. Organtherapeutische Ergebnisse bei depressiven Psychosen von Frauen. (The results of organic therapy in depressive psychoses in women.) *Monatssch. f. Psychiat. u. Neur.*, 1932, 83, 305-374.—*R. R. Willoughby* (Clark).

4609. Smirnov, A. J. [The question of the interrelations between the clinic and physiology.] *Sovet. vrach. gaz.*, 1932, No. 19, 1097-1103.—The author takes the pathological process as a provisional conception. In it he sees a new qualitative display of the organism, viz., the "functional tendency of organism" provoked by endogenous or exogenous factors. In the pathological process we can observe new physiological regularities (laws), already known, but manifested differently, in connection with new conditions, characterizing the pathological process. Physiologists have found a wide area for investigations in the clinic, and in connection with clinical physicians a united plan of work can be planned.—*A. Yarmolenko* (Leningrad).

4610. Smith, J. C. Om dementia praecox. (About dementia praecox.) *Hospitaltid.*, 1934, 77, 437-456.—This is a preliminary report on 200 cases of schizophrenia. The average age of onset for dementia praecox was 26.4 years, catatonics 28.7 years, paranoid schizophrenics 41.5 years. The simple and catatonic types were found to be asthenics, whereas



the paranoids were pyknic types. A close connection is pointed out between the schizoid type and tubercular constitution. No relation of the known blood types to schizophrenia has been found. The increased number of leukocytes was investigated. The following classification is offered: (1) normal 5%; (2) very slightly increased to 7%, inclusive; (3) slightly increased to 12%; (4) distinctly increased to 18%; and (5) very much increased over 18%. An investigation of the question of heredity, along the line of studies of Bleuler in the United States, is in progress. Preliminary results, in general, confirm those of Bleuler with the exception that Smith is unable to find the so-called "uninherited highly demented" cases.—*V. Coucheron-Jarl* (Mooseheart Laboratory for Child Research).

4611. **Stekel, W. Bi-sexual love.** (Trans. by J. S. Van Tessaar.) (Rev. ed.) Milwaukee: Caspar, Krueger, Dory, 1933. Pp. 359. \$5.00.—*R. R. Willoughby* (Clark).

4612. **Stekel, W. Homo-sexual neurosis.** (Trans. by J. S. Van Tessaar.) Milwaukee: Caspar, Krueger, Dory, 1933. Pp. 321. \$5.00.—*R. R. Willoughby* (Clark).

4613. **Sukhareva, G. E. [The problem of deficiency of formes frustes in schizophrenia.]** *Sovet. neuropatol.*, 1933, 2, No. 5, 24-38.—The mild forms of schizophrenia give us the symptoms of the going process and those of a secondary reactive order. There are three types of structural changes: (1) atonic—deficiency of affective vivacity and activity of personality; (2) tonic—rigidity, deficiency of affective will-display; (3) dystonic—the basis is the disturbance of the unity of psychic display of personality and its discontent. The clinical picture of deficiency is determined by the disease and the social and material conditions.—*A. Yarmolenko* (Leningrad).

4614. **Symonds, P. M. Mental hygiene of the school child.** New York: Macmillan, 1934. Pp. 321. \$1.50.—This book, designed primarily for teachers, presents general principles underlying the development of good mental health, and their application chiefly to school situations. It stresses the positive preventive effects of mental hygiene rather than the treatment of the problem child, although this subject is also included. Newer curriculum tendencies indicate an increasing responsibility for the school in the education of the whole child as distinguished from the academic child. The formation of certain habits of conduct and thinking, which must be acquired if the child is to become a well-adapted member of society, and the integration and adjustment of personality, subjects formerly left largely to the home and church, are now being transferred to the school. The educator should first understand conditions under which good mental health thrives, then set up a school organization and program which will provide these conditions. The book contains definite suggestions along these lines, as well as those for the adjustment of the individual child. Problems for discussion are included at the close of each chapter. Chapters are included on learning, fundamental

human drives, discipline, sex adjustment, and the role of the teacher in mental hygiene. Bibliography.—*M. D. Rebboli* (Worcester, Mass.).

4615. **Tendler, A. D. Associative tendencies in psychoneurotics.** *Psychol. Clin.*, 1933, 22, 108-116.—The Kent-Rosanoff association test was given to 50 psychoneurotics, 12 male and 38 female, ranging in age from 20 to 35 years. A searching analysis of the results indicates that the subjects studied fall naturally into two groups or types. One type gives reaction patterns similar to those found in Kent and Rosanoff's normal adults. The other type gives results similar to those obtained by Woodrow and Lowell in their study of children. The author suggests that in the former group the difficulty may be situational, while in the latter one it may be constitutional.—*J. T. Metcalf* (Vermont).

4616. **Tramer, M. La pedopsichiatria o neuropsichiatria infantile.** (Pedopsychiatry or neuropsychiatry of the child.) *Riv. di psicol.*, 1934, 30, 30-35.—The author shows the ways in which pedopsychiatry has become a new and important branch of medicine, with its own diagnostic, therapeutic and prognostic methods.—*T. M. Abel* (Sarah Lawrence).

4617. **Volfis, A., & Garov, S. [Epidemic encephalitis and work capacity.]** *Sovet. psikhonevr.*, 1932, No. 4, 15-25.—The degree of loss of work ability does not correlate directly with the weight of reactive symptomatology. The work ability is determined by the functional state of patients, which is determined best by investigations in industry and dynamic observation.—*A. Yarmolenko* (Leningrad).

4618. **Wildenskov, H. Investigations into the causes of mental deficiency.** Copenhagen, London: 1934.—The director of the Keller Institut in Denmark presents in this work a thoroughgoing study of a hundred feeble-minded patients. The question of exo- and endogenesis is especially emphasized.—*V. Coucheron-Jarl* (Mooseheart Laboratory for Child Research).

4619. **Witmer, H. L., & others. The childhood personality and parent-child relationships of dementia praecox and manic-depressive patients.** *Smith Coll. Stud. Soc. Work*, 1934, 4, 289-377.—An "investigation, carried out by seven students of Smith College School for Social Work in five state hospitals, . . . to test the theory that functional psychoses occur chiefly in individuals whose personality is different from that considered normal and who grew up under unusually irritating or handicapping emotional conditions." Four informants per case were seen for 40 manic-depressive and 68 dementia praecox patients. "Many of the patients, especially the schizophrenics, were described as always having had a personality pattern that differed from the normal. And in a large proportion of the homes handicapping emotional conditions of one type or another were reported. The home conditions seemed somewhat worse on the average in the manic-depressive group, while among the schizophrenics individuals of poor social adjustment were more frequent." "Over-protection, often of an extreme form, was fairly

common, especially in the manic-depressive group, and in a third of the cases the mother was unusually dominant and the father played a very weak role."—*R. H. Brown* (Clark).

4620. Yugelevski, A. S. [The physiology and pathology of Gerver's symptom of the upper eyelid.] *Sovet. psikhonevr.*, 1932, No. 6, 78-85.—*A. Yarmolenko* (Leningrad).

4621. Zinoviev, P. M. [The scientific work of Prof. P. B. Gannushkin.] *Sovet. neuropatol.*, 1933, 2, No. 5, 3-6.—On February 23, 1933, died one of the most prominent psychiatrists of the USSR, P. B. Gannushkin. He was the founder of a new psychiatric school, which bases its investigation of psychic diseases upon the constitutional traits of personality. This school, being a clinical one, is based on nosological principles and structural strata diagnosis. After the death of its author a book summarizing his ideas appeared.—*A. Yarmolenko* (Leningrad).

[See also abstracts 4407, 4450, 4467, 4549, 4565, 4625, 4640, 4661, 4676, 4753, 4819, 4822.]

#### PERSONALITY AND CHARACTER

4622. Adler, A. *Die Formen der seelischen Aktivität*. (The forms of mental activity.) *Int. Zsch. f. Indiv.-psychol.*, 1934, 12, 1-5.—A series of generalizations on various aspects of the expression of personality traits. The genesis of personality traits and social attitudes in childhood, their subsequent constancy and individual form of expression are emphasized. The variety or range of the expressive activities is as significant as their degree or intensity for the appropriate or successful adjustments, as well as for the undesirable attitudes, or those making for failures. Adler sets as a goal for individual-psychology the support of all movements strengthening the socialization of individuals, as against all particularism of family, nation or race.—*O. N. de Weerd* (Beloit).

4623. Beck, S. J. *The Rorschach method and personality organization. Balance in personality.* *Amer. J. Psychiat.*, 1933, 13, 519-532.—The problem of balance in personality is attacked by means of an analysis of the quantitative measurement of four fundamental psychological processes by the Rorschach technique. These processes are in mutual interaction, producing the final personality as a whole. Examination of the quantitative level of each of these four processes in six healthy groups differing only in intelligence and in four groups of mental disease, brings strikingly to light the role of different balances between the processes in effecting different personality pictures. Personality thus seems to be the result of a balance of processes. Among these effect and accuracy of perception vary inversely with each other; the relations between the other processes have not yet been determined. The author criticizes the extravert-introvert hypothesis on the grounds that "the patterns described as 'intro-extravert' are not stable; the components of either one combine with the other; they are transposable," and that "it

attempts to delineate personality as a segment in a single, linear dimension" which is not in harmony with the data presented in the paper. Personality patterns may be more accurately described in terms of balance between quantities of the four psychological processes: form perception, organization, creativity, and affectivity. Certain patterns are recognized in society as stable. When a process varies beyond a certain limit, resulting in a changed equilibrium, we encounter a different personality group.—*N. Goldman* (Boston Psychopathic Hospital).

4624. Bell, H. M. *The adjustment inventory*. Stanford University: Stanford Univ. Press, 1934. Pp. 4. 25 copies, \$1.75.—A 140-item inventory of personal and social adjustment which attempts to measure home, health, social, and emotional adjustment. It has been used with persons of college and high-school age, and is suitable for both sexes. A scoring key and a manual with instructions both for giving and scoring is provided. The latter also discusses norms, reliability, and intercorrelations.—*D. Shakow* (Worcester State Hospital).

4625. Borowiecki, S. *Patologja charakteru*. (The pathology of character.) *Rocznik psychiatryczny*, 1933, 20, 87-100.—The author stresses the importance of the hereditary disposition in the genesis of character. He emphasizes also, the relation of the individual to his environment. Difficulties in this relation are particularly striking for the psychopathic personality.—*S. Blachowski* (Poznan).

4626. Freeman, F. S. *Individual differences: the nature and causes of variations in intelligence and special abilities*. New York: Holt, 1934. Pp. 355. \$2.50.—The author discusses the following topics: the extent of individual differences, the influence of inheritance, the influence of environment, the influence of race and nationality, sex differences, age differences, special abilities and disabilities, and physical development and personality. Heredity and environment are both recognized as factors influencing individual differences; but the attempt to determine the relative amounts contributed by each is at present unwise. In harmony with this point of view, it is concluded that studies of racial differences have not established the existence of genetic factors. Some evidence for sex differences of a genetic character is found. "As regards groups, sex membership implies certain differences with respect to a number of specific mental traits which very probably have a genetic basis, since the group differences are present early in the lives of children, and since the results of many investigations are rather consistent on this point." "Mentality (and mental age) has been shown to develop with chronological age, to correlate with it; but the correspondence does not hold for all individuals, either in childhood or in late adulthood. Thus, although certain general principles are appropriate with regard to the decline in mental level and in learning ability during late maturity, each person even then still asserts his individuality."—*W. S. Hunter* (Clark).

4627. Guilford, J. P. **Introversion-extroversion.** *Psychol. Bull.*, 1934, 31, 331-354.—A review of 115 titles is arranged under the heads: psychological theories and descriptions, genetic factors, tests and rating scales, characteristics correlated with IE, practical applications of IE tests, and physiological basis of IE. Certain new personality types correspond more or less with IE. Certain family influences are concomitant; and age, intelligence, inferiority attitudes, social intelligence, female sex, submissiveness, affectivity, idiosyncrasy, depressed mood, and neurotic tendency are related to introversion. Questionnaires of IE are generally inadequate, and work on more objective tests is progressing. Satisfactory progress waits upon a successful factor analysis of personality and its real variables.—J. F. Dashiell (North Carolina).

4628. Hargan, J. **The reaction of native white convicts to the Bernreuter personality inventory.** *Psychol. Clin.*, 1933, 22, 138-140.—The Bernreuter personality inventory was given to 100 consecutive white admissions to Sing Sing Prison having a mental age of 12 years or more. The results were compared with Bernreuter's adult norms and interpreted according to his method. The figures, so interpreted, indicate that the convict group does not show as much of a tendency as the normal group toward the extremes of emotional instability or stability. The convict group appears to be more self-sufficient than the normal and shows a greater tendency to extraversion. Among the convict group there is about as large a percentage of submissive types as in the normal and a somewhat smaller percentage of dominant types.—J. T. Metcalf (Vermont).

4629. Hayes, M. **A scale for evaluating adolescent personality.** *J. Genet. Psychol.*, 1934, 44, 206-222.—For diagnostic and survey purposes a scale is offered furnishing 100 items representing habit patterns exhibited by adolescents and arranged into 8 situational groups (relation to others generally, respect for rights of others, relation to teacher, relation to other pupils, initiative, health habits, general interests and scholarship and study habits). These were selected from an original 221 on the basis of evaluations by advanced psychology students and educational and psychiatric experts; and their differentiating value appears from the application to a few cases of rating. Percentile norms and a profile chart are added.—J. F. Dashiell (North Carolina).

4630. Hendrickson, G. **Some assumptions involved in personality measurement.** *J. Exper. Educ.*, 1934, 2, 243-249.—The author considers some of the important problems and assumptions involved in attempts to measure in the area of personality and character. The following topics serve as focal points for the discussion: (1) the nature of personality; (2) the stability of personality; (3) social factors involved in personality measurement.—H. W. Karn (Clark).

4631. Krechel, J. **Persönlichkeitstypus und Sprache.** (Personality type and language.) *Arch. f. d. ges. Psychol.*, 1933, 89, 449-524.—In order to

investigate the possible relationship between language and personality type, the author studied both the oral and written language of an unstated number of persons ranging from 10 to 30 years of age. Three different experimental procedures were followed: (1) a series of letters, words, sentences, and quotations were spoken aloud to the subject, and his oral responses were taken down stenographically and then analyzed to determine his reactions to these linguistic impressions; (2) language form or structure was studied by referring to poems, diaries or other written compositions of the subjects; when none were available, the subject was asked to make a statement utilizing three given words; (3) samples of the subjects' oral speech were recorded on phonograph records and then analyzed with respect to accent, tone, tempo and rhythm. Three language types, the egocentric (*ich kohärente*), the material, and the selective are described and characterized. These were found to correspond to the S, the I<sub>1</sub> and the I<sub>2</sub> types of E. Jaensch's classification.—E. L. Kelly (Connecticut State).

4632. Kuhn, H. J. **Praktische Psychologie und typologische Forschung der Gegenwart.** (Present-day practical psychology and typological research.) *Zsch. f. päd. Psychol.*, 1934, 35, 49-61; 97-103.—While theoretical psychology has radically changed from a mechanistic-atomistic to an organic-Gestalt conception of mental phenomena, practical psychology, which also encompasses the determination of vocational aptitude and fitness, is lagging behind in the application of the new methods of research. In part, this lag can be explained by the failure to recognize that in most specialized activities most of the psychophysical factors participate. Vocational psychology must therefore aim to interpret work behavior and work performance in the light of the total structure of the individual personality; i.e., to determine the concrete effect of the human person in vocational and work situations. The typological method is especially adequate to obtain such organic views of the whole individual in his relation to vocational work. Typological research is concerned not so much with differential determination of intelligence, achievement, and performance, but rather with obtaining an insight into the formal structure and Gestalt of the work process, an understanding of the form of behavior in the vocational situation, and a comprehension of the type and mode of conduct, of approach, and of deliberation and creation—briefly, an apprehension of that which has been called the "work type" of an individual. Parallel to a typology of "work personalities," a typology of vocations—a classification of vocations according to essential structures of behavior involved—should be attempted. The results of the Tübinger school (Kroh) of typological research are reviewed and discussed in their bearing upon vocational diagnosis and guidance. A twofold typological pattern of behavior is well established with regard to perceptual and apperceptual processes and motor attention, perseverance, memory, thinking, general intelligence, creative work processes such as speed,



dexterity, precision, general coordination, etc. The two forms of behavior are known as the "analytic-formalistic" and the "synthetic-realistic" type. 15 references to typological researches are appended.—*W. Reits* (Chicago).

4633. *Mandolini, H.* Temperamento, constitución y genio artístico. (Temperament, constitution, and artistic genius.) *Rev. de crim. psiquiat. y med. leg.*, 1934, 21, 34-40.—*Mirabeau, Calvin, Robespierre, Schiller, Kant, Beethoven, and Chopin* are among the creative minds discussed. Their physiological constitution and general temperament are considered.—*R. M. Bellows* (Ohio State).

4634. *Meister, O.* Geschichtsforschung und Individualpsychologie. (Historical research and individual-psychology.) *Int. Zsch. f. Individ.-psychol.*, 1934, 12, 37-44.—Taking the case of *Stiger*, an Austrian revolutionist of 1848, as an example, the writer shows how the fundamental personality traits of an historic character may be unravelled from the usual documentary sources. The modern psychological insight into personality development and its expression makes it possible to understand clearly and interpret consistently from the sources what are apparently irreconcilable findings. This is in the main attained by distinguishing the direct reactions from the indirectly expressed or compensatory traits. The decision in each instance is determined by consistency with the trends known to have been usually developed through the home circumstances.—*O. N. de Weerd* (Beloit).

4635. *Roberts, C. S., & Fisher, V. E.* Another attempt at measures of extraversion-introversion. *Psychol. Clin.*, 1933, 22, 88-93.—A group of 35 university students were rated in each of three different ways: (1) on the basis of a personal interview on a scale from 0 to 10, 0 representing the extreme of extraversion and 10 the extreme of introversion; (2) by means of the *Bernreuter B3-I* scale; (3) according to time taken in tracing a six-pointed star in mirror-drawing fashion. Between *Bernreuter* and mirror-drawing ratings the correlation coefficient is  $-.248 \pm .106$ . Between personal judgment and *Bernreuter* ratings the correlation coefficient is  $.317 \pm .101$ . But between personal judgment and mirror-drawing the correlation coefficient is  $.915 \pm .018$ . Mirror-drawing measures the subject's adaptability to a new situation, and this may be regarded as a function of extraversion. The authors, on the basis of their results, strongly question the validity of the inventory type of test for introversion-extraversion.—*J. T. Metcalf* (Vermont).

[See also abstracts 4337, 4578, 4591, 4619, 4621, 4707.]

#### SOCIAL FUNCTIONS OF THE INDIVIDUAL

4636. *Almkvist, J., Kinberg, O., Wernstedt, W., Antoni, N., Olow, J., & Petren, A.* Sex läkare om sexualproblemet. (Six physicians on the problem of sex.) Stockholm: Natur och Kultur, 1934. Pp. 229.—An extensive discussion and reorientation of the various aspects of sex life has taken place in the Scandinavian countries in recent years. Thus we

find Norway pioneering with a popular scientific periodical giving information in the medical, psychological, and sociological features of sex (*Sexual Oplysning*, Oslo, Fram Forlag). The above publication is a review of an attempt by six Swedish physicians to treat the subject in light of up-to-date knowledge, and has the following chapters: the history of sexual life, sexual hygiene, psychology of sex, sex in childhood and adolescence, neurasthenia sexualis, abortion and contraception, the problem of sterilization, sex criminals.—*V. Coucheron-Jarl* (Mooseheart Laboratory for Child Research).

4637. [Anon.] Students' dissertations in sociology. *Amer. J. Sociol.*, 1934, 40, 74-103.—The following list of subjects from doctoral dissertations and masters' theses in preparation in universities and colleges in the United States and Canada is taken from a compilation of the returns from letters sent by the editors of the *American Journal of Sociology* to departments of sociology. Many of the subjects are of psychological interest, such as: (Chicago) neighborhood gangs, delinquency triangles, negro morality, negro leadership, family backgrounds in delinquency, juvenile delinquency and success and failure, occupational prestige, the only child, attitude toward crime in Soviet Russia, development of personality traits, personality disorganization and domestic discord, songs as forms of expressive behavior, propaganda and social control, and probation predictions; (Columbia) personality factors in social conflict, reliability of experience reported by interview, changing status of leadership, official statistics as a measure of juvenile delinquency, conflict and community (a study in social theory), and fashion and public opinion; (Duke) the emotional factor in the social process, and the nature of tradition; (Iowa) logic in case studies; (New York University School of Education) problem behavior in public school children, the homosexual attitude, and adjustment of college students; (Ohio) the negro church; (Pennsylvania) crime causation in America; (Pittsburgh) social control of the mentally disordered; (Southern California) social adjustment problems of junior college women, and the measurement of culture distances; (Vanderbilt) social factors influencing high-school failures; (Virginia) juvenile delinquency in Albemarle County; (Washington University) parents' personalities as indicated by their children's descriptions, and reactions of children to humorous and non-humorous pictures; and (Wisconsin) relation of certain traits of parents to the marital choice and adjustment of their children. The following subjects are taken from the masters' theses listed: (Chicago) effects of motion pictures, behavior changes, ecological studies on certain mental disorders, family influences, personality studies, and intimacy and social distances; (Cincinnati) ecological factors and delinquency; (Columbia) social prejudices and social interests of negro men in Harlem; (Fisk) divorce among negroes; (Graduate School for Jewish Social Work) race attitudes of Jewish children, adjustment histories of Jewish immigrant families, case studies in a foster-care agency, and careers of graduates of a school for problem boys; (Hawaii)

language assimilation in Island Creole; (Illinois) delinquency as related to family and community patterns; (Kansas) parent-child relationship differences; (Michigan) juvenile delinquency types in selected small-town areas; (Michigan State College) social situations of problem and non-problem boys in an intermediate school; (Minnesota) case studies on sterilization of the feeble-minded; (New York School of Education) personality traits of Chinese-American girls; (North Carolina) the foster child; (Northwestern) Allport's theory of group fallacy, participation in organized games by adolescent boys, the family and delinquency in negro girls, and family disorganization and delinquency; (Oberlin) racial attitudes of negroes; (Ohio) race prejudice, juvenile delinquency in Columbus, and group-work incentives for adolescents; (Ohio Wesleyan) delinquency causes in a given family; (Southern California) case studies of problem boys, and social attitudes in psychopathic cases (before and after mental breakdown); (Stanford) the cripple, and adolescent adjustment as related to the spread between ideology and reality; (Syracuse) residential distribution of psychopathic cases, and marital maladjustment and psychopathic trends; (Utah) mental hygiene and problem children; (Vanderbilt) inbreeding among a feeble-minded, isolated mountain family; (Washington University) care of the colored feeble-minded in Missouri; and (Wisconsin) background factors in religious attitudes.—*A. B. Hunter* (Clark).

4638. [Anon.] *Interval frequency in melody.* *Peabody Bull.*, 1934, 30, No. 2, 44-45.—Tabulation of melodic interval frequencies in songs of Schubert, Schumann, Brahms, and Richard Strauss shows that the larger the interval the less frequently it occurs. Composers differ in their preferences for intervals; for example, Schumann uses many more unisons than does any of the other composers studied.—*L. Petran* (Peabody Conservatory).

4639. Argow, W. W. *The efficacy of prison mental tests as a guide to rehabilitation.* *J. Crim. Law & Crimin.*, 1934, 24, 1074-1080.—The functions of a psychologist on a prison staff are described, and the various tests of intelligence, personality traits, and vocational aptitudes listed. There should be a program of diagnosis and re-education so that the prisoner will be improved during his stay in prison.—*L. Ackerson* (Institute for Juvenile Research).

4640. Banisconi, F. *Instabilità psichica e fattori sociali in un gruppo di minori assistiti.* (Mental instability and social factors in a group of juvenile delinquents.) *Riv. di psicol.*, 1934, 30, 13-25.—A study of the somatic, mental, and social conditions of 428 children and adolescents under observation in a detention home because of some form of juvenile delinquency. The concept of "psychical instability" proposed by DeSanctis was found to be particularly applicable to this type of behavior problem.—*T. M. Abel* (Sarah Lawrence).

4641. Bernard, J. *Factors in distribution of success in marriage.* *Amer. J. Sociol.*, 1934, 40, 49-60.—The present article attempts to explain

the marked negative skewness found in the distribution of success in marriage of a sample of 252 individuals, as reported in an earlier article. Age, income, education, and absence of children must be discarded as explanatory factors of success in marriage in the present sample. A negatively skewed curve is probably normal for distribution of marital satisfaction, but this skewness is exaggerated in the present study by the instrument used and by psychological selective factors. The appendix suggests that a periodic relationship may obtain between number of years' duration of marriage and marital satisfaction; that a parabolic relationship exists between the difference in age of the spouses and marital satisfaction; that a negative relationship may exist between age of men at marriage and their marital satisfaction; and that the first child is more of a disturbing factor with men than the second child.—(Courtesy *Amer. J. Sociol.*)

4642. Böhme, A. *Vorbeugung und Pressepropaganda.* (Prevention and press propaganda.) *Arch. f. Krim.*, 1934, 94, 124-138.—According to the new German criminal code, the fight against crime is the concern of the people as much as of the police. The instrument of this mass therapy is press propaganda emanating from the state through the police department. The propaganda must be popular in form, limited to a few basic ideas and slogans "hammered in" a thousand times, explaining, teaching, advising, warning, and always pointing a moral. Examples of the content and technic of such notices are given.—*M. E. Morse* (Catonsville, Md.).

4643. Brachfeld, O. *Individualpsychologie und positivistische Soziologie.* (Individual psychology and positivistic sociology.) *Int. Zsch. f. Individ. psychol.*, 1934, 12, 44-46.—Comte in his positivism rejected psychology as a separate discipline, according to a widespread opinion first emphasized by Galt. This position was based on Comte's conviction that mental phenomena are absolutely comparable to the recognized physiological phenomena of changes in muscles and glands. Wilhelm Ostwald also gave expression to this view in his study of Comte (1914). Lévy-Bruhl sought to free Comte from this stigma of contempt for psychology by showing that not only sociology but modern psychology as well were founded on Comte's work. According to this view psychology must find its basic field and concepts in social happenings. A positivistic psychology must be founded in a "social inspiration controlled by a zoological appreciation." Psychology must proceed without taking into account the cerebral apparatus. This socially oriented psychology, which in a measure can dispense with biological and physiological considerations, is finding its expression in the individual psychology of Alfred Adler.—*O. N. de Weerd* (Beloit).

4644. Busch, H. M. *Leadership in group work.* New York: Asso. Press, 1934. Pp. 311. \$2.25.—*R. R. Willoughby* (Clark).

4645. Cantril, H. *The social psychology of everyday life.* *Psychol. Bull.*, 1934, 31, 297-330.—Social psychologists have gone too far in adapting their

problems to fit standardized laboratory conditions, instead of selecting full-bodied problems from everyday life and devising newer techniques that would handle the questions with minimal distortion. A survey of 22 textbooks lists for each the small percentage of content devoted to everyday life, the definition of social psychology, and the manner of treatment. A list of some forty practicable projects of research in the social psychology of daily life is furnished, each subdivided into several questions, and each with bibliographical references furnished from a list of 306 titles.—*J. F. Dashiell* (North Carolina).

4646. **Chapin, F. S.** *Latent culture patterns of the unseen world of social reality.* *Amer. J. Sociol.*, 1934, 40, 61-68.—Sense impressions of the physical environment do not depict the unseen world of atomic structure. Similarly, there is a social world of unseen social realities that underlies the visible social environment. It is in this unseen world of latent culture patterns that social changes germinate. Along with the quality of intension, or social depth, that is revealed in the manifest and in the latent culture patterns of any given social institution, there is another quality, that of extension or reaching out in space (both physical and social) or of reaching out in time. This dimension of society is revealed in spatial patterns (culture area, ecological zones, etc.), in structural patterns (group hierarchies and social distance), and in sequential patterns (the succession of structural patterns or the display of function). The analysis is applied to explain such social institutions as city government and the family, and may equally well be applied to the church and other institutions.—(Courtesy *Amer. J. Sociol.*)

4647. **Clarke, R. T.** *The drum language of the Tumba people.* *Amer. J. Sociol.*, 1934, 40, 34-48.—The drum language of the Bantu tribes living in the equatorial forest is a system of signals beaten with two sticks on a hollowed wooden drum which gives out two notes corresponding to the two tones of the vowels of the language. Use of the drum is restricted to men but is now entirely secular. The signals represent the tones of the syllables of conventional phrases of a traditional and highly poetic character. The phrases are sufficient in number that the code can be used for a large variety of messages, furnishing a means of instantaneous communication throughout a radius of several miles.—(Courtesy *Amer. J. Sociol.*)

4648. **Cressey, P. G.** *The motion picture as informal education.* *J. Educ. Sociol.*, 1934, 7, 504-515.—The educational power of the cinema lies in its adaptation to the interests of youth and its presentation of real life situations, in the child's voluntary attendance and his inability to evaluate what he sees, and in the advertisers who have built up movie star prestige. Nevertheless, the full significance of the cinema "cannot be seen except by reference to the specific social backgrounds of each individual." The peculiar susceptibility of adolescents in an interstitial area represents a case in point.—*F. D. McTeer* (Wayne University, Detroit).

4649. **Dickinson, R. L., & Beam, L.** *The single woman.* Baltimore: Williams & Wilkins, 1934.

Pp. 465. \$5.00.—This book, the first study of its kind, is based on the histories of 350 gynecological patients, above the average in education, background and economic status, and socially normal. The medical, psychological and sociological aspects of the cases receive equal attention. Of special psychological interest are the chapters on virginity; engagement; hetero-, homo-, and auto-sexuality; and creative problems (family, work, religion and art). The likeness between the single woman and the maladjusted wife is apparent in personality type, tradition, and kind of problem. In the married the conflict is between the self and a second person; in the single, with the self. In both the trend is toward individualism. The single make out of other elements the pattern of marriage. This power of translation lifts the impersonal into a human likeness which has power over the life. The social meaning of singleness is the change of values implied in development without emotional fertilization. A person derived from the traditional life of woman maintains both the man's vocational and economic relationships and the woman's mothering attitude. This requires constant readjustment of ambition and takes into each function the inertia of a desire to belong to the traditions of the other sex.—*M. E. Morse* (Catonsville, Md.)

4650. **Fox, J. F.** *Leisure-time social backgrounds in a suburban community.* *J. Educ. Sociol.*, 1934, 7, 493-503.—An analysis of diary records kept by school children in a residential suburban community indicates that children in homes of higher socioeconomic status have fewer home duties and less work outside the home; they spend more time in personal service and have more leisure time than do those children whose families are not so well located financially and socially. "Listening to the radio" occupied a greater proportion of the children's leisure time than did any other one activity.—*F. D. McTeer* (Wayne University, Detroit).

4651. **Geck, L. H. A.** *Der Gegenstand der Sozialpsychologie.* (The subject matter of social psychology.) *Zsch. f. Psychol.*, 1934, 131, 382-387.—Social psychology concerns itself with the mind of the individual, in so far as it bears a social reference as a result of individual attitude or inter-individual processes or relationships. It may be divided into general and special social psychology, each division being broken up into the sub-divisions of individual social psychology and collective psychology.—*R. B. MacLeod* (Swarthmore).

4652. **Gilarovski, W.** [The genesis of stuttering of little children.] *Sovet. nevrolog.*, 1932, No. 9, 570-581.—Traumas based on the excitability of the nervous system of little children are observed in most cases of preschool stutterers. The stuttering is generally a disease of preschool age, and the therapy consists chiefly of removing the unfavorable psychic moments, and of health improvement and pedagogic measures.—*A. Yarmolenko* (Leningrad).

4653. **Goldfield, A.** *Experiments in informal education. II. The penny game room.* *J. Educ. Sociol.*, 1934, 7, 520-522.—The game room is "equipped with ping-pong tables, carom, checkers, dominoes,



a pool table, mats for wrestling, and two baskets for basketball throwing." It is open three nights a week for boys and three nights a week for girls. It is easily set up and easily removed. The one-cent admission results in participation as individuals rather than as gangs.—*W. McTeer* (Wayne University, Detroit).

4654. **Goodsell, W.** *History of marriage and the family.* (Rev. ed.) New York: Macmillan, 1934. Pp. 611. \$3.00.—*R. R. Willoughby* (Clark).

4655. **Groves, E. R.** *The American family.* Philadelphia: Lippincott, 1934. Pp. 510. \$3.00.—*R. R. Willoughby* (Clark).

4656. **Haught, B. F.** *Mental growth of the south-western Indian.* *J. Appl. Psychol.*, 1934, 18, 137-142.—Children from 6 to 16 were given the Pintner-Cunningham Primary Mental Test, the National Intelligence Test, or the Terman Group Test for Mental Ability. Increased mental retardation occurs with higher chronological age. Intelligence quotients range from 71 to 87.—*R. S. Schultz* (Psychological Corporation).

4657. **Heimerzheim, W.** *Ueber den Selbstmordversuch bei nichtpsychotischen Persönlichkeiten.* (Attempted suicide in non-psychotic personalities.) Düsseldorf: Nolte, 1933. Pp. 30.—*R. R. Willoughby* (Clark).

4658. **Holbrook, R. T.** *X-ray films of speech-articulations and their utility in teaching.* *School & Soc.*, 1934, 39, 674-675.—The author has prepared and offers for circulation X-ray films showing the positions of the tongue, soft palate, and larynx during the articulation of the vowels and consonants.—*H. L. Koch* (Chicago).

4659. **House, F. N.** *Measurement in sociology.* *Amer. J. Sociol.*, 1934, 40, 1-11.—American sociologists appear to agree that social science should be as quantitative as possible, that subjective phenomena can be measured only through objective indexes, that statistics can be used to verify or disqualify hypotheses, and that statistics may have great practical value; probably also that statistics may suggest some explanation. They agree also that non-quantitative methods should be used where quantitative methods have not yet been devised, but only there. The issues of the controversy are: (1) Can knowledge of social phenomena be completely reduced to quantitative expression? (2) Can we know other people except from behavioristic data? (3) Is there no ground of choice among research projects except the competence of their sponsors? The value of research depends partly on the need for knowledge for practical use; needed knowledge may be such as can be had only by non-quantitative methods. The term "science" may not be granted, in the long run, to non-quantitative knowledge, but in that case the aims of sociology should be stated to include other elements besides the results of scientific research.—(Courtesy *Amer. J. Sociol.*)

4660. **Hudgins, C. V.** *A comparative study of the speech coordination of deaf and normal subjects.*

*J. Genet. Psychol.*, 1934, 44, 3-48.—The kymograph technique was used to study the muscular coordinations in the speech of deaf and normal, as they repeated set syllables, words, and phrases of different lengths. Tambours were applied to thorax and abdomen and a small mask to the face, to register the involvements of (1) the abdominal muscles which mark the phrases, (2) the intercostal muscles which mark the syllables, and (3) the mouth parts which produce the consonants. The phrases were measured for time for whole phrase, for amount of breath expelled, and for breath flow per syllable. The speech of the deaf has: (1) extreme slowness, usually with excess breath expenditure, (2) prolonged vowels, (3) abnormal rhythm, (4) nasality, (5) poor consonants with extra vowels. There is a high positive correlation between degree of abnormality of coordination and degree of hearing loss. Subjects who become deaf after learning to speak retain normal speech coordinations; hence the movements are not controlled by the sounds produced by them, but kinesthetically. From this it is concluded that the methods of speech training in common use are unsuited to the profoundly deaf, for whom visual cues should be provided, as with the stroboscope.—*J. F. Dashiell* (North Carolina).

4661. **Jelliffe, S. E.** "What! No pictures?" *J. Crim. Law & Crimin.*, 1934, 24, 1019-1024.—A psychopathological study of the published description of Giuseppe Zangara, who was executed in Florida because of a death occurring at the time of his attempted assassination of Franklin D. Roosevelt, indicates that he was an exhibitionistic type of paranoid psychopath. The drive was "essentially self love, colossal egotism and sadistic envy and hatred to those who have achieved that which such individuals have failed to acquire. . . . There is little doubt that Zangara was mentally ill."—*L. Ackerson* (Institute for Juvenile Research).

4662. **Jesinghaus, C.** *La importancia fundamental de una acertada orientación profesional en los niños abandonados y delincuentes.* (The fundamental importance of a reliable vocational guidance to neglected and delinquent children.) *Rev. de crim. psiquiat. y med. leg.*, 1934, 21, 69-72.—The applied psychologist is a necessary member of the staff of any organization for the prevention of delinquency since (1) the good effects of work as a medium of education lead to both social and economic adaptation on the part of the individual, and (2) medical and psychotechnical tests for fitness to particular lines of work enhance the value of the individual to society.—*R. M. Bellows* (Ohio State).

4663. **Kaplan, F.** *Experiments in informal education. I. Block recreation project.* *J. Educ. Sociol.*, 1934, 7, 516-520.—Based on the plan of bringing recreational facilities to the boy on his own city block, two years of successful experimentation were carried on during which club rooms were formed in empty stores, basements, etc. Development of local pride reduced delinquency.—*W. McTeer* (Wayne University, Detroit).

4664. Kirk, S. A. A study of the relation of ocular and manual preference to mirror reading. *J. Genet. Psychol.*, 1934, 44, 192-205.—61 high-grade defective children were tested for ocular and manual preference and were given normal- and mirror-reading tests. Contrary to the theories of others, no significant differences in mirror-reading ability were found between the left-eyed and the right-eyed, or between those of homolateral and those of contralateral eye-hand preference. Clinical observations lead the author to suggest that mirror-reading may be more complex than is generally appreciated and may become established in several kinds of situations leading to left-right confusion.—J. F. Dashiell (North Carolina).

4665. Landry, L. Les notions de fin et de moyen dans les problèmes d'organisation. (The concepts of the extreme and the average in organization problems.) *J. de psychol.*, 1934, 31, 307-308.—Many problems of organization which appear difficult of solution are reducible to conflicts between exigencies necessitating a recognition of the average and the extreme. Problems of business, military, and educational organization are discussed.—N. L. Munn (Pittsburgh).

4666. Lenoir, R. Le sens de la vie dans les sociétés dites primitives. (The meaning of life in so-called primitive societies.) *J. de psychol.*, 1934, 31, 273-289.—The author gathers a large amount of material concerning the concepts, attitudes, and practices related to the phenomena of birth and death in primitive societies. He makes free use of explanations in terms of instinct, speaking of a cannibalistic instinct and of the instinctive awakening of memories of former times. There are a large number of citations concerning sources.—N. L. Munn (Pittsburgh).

4667. Licht, H. Sexual life in ancient Greece. New York: Dutton, 1934. Pp. 571. \$5.00.—R. R. Willoughby (Clark).

4668. Lublinsky, P. Social backgrounds of school children in Soviet Russia. *J. Educ. Sociol.*, 1934, 7, 485-492.—Two approaches to the above problem are being used in Soviet Russia. The first is that conditioned by the practical needs of school practice, dealing with health, economic conditions, delinquency, and vocational guidance. The second "expresses an attempt to get knowledge of the factors determining informal education of children out of school, simultaneously with the course of formal school education." This approach emphasizes the changing and enlarging circles of the social contacts of the growing child.—W. McTeer (Wayne University, Detroit).

4669. Luria, A. R. The second psychological expedition to central Asia. *J. Genet. Psychol.*, 1934, 44, 255-259.—The first expedition to central Asia in 1931 had brought out that in primitive community life a specific system of thinking is to be observed, which is not the formation of abstract relationships of symbols but the reproduction of whole situations. The second expedition, in 1932, studied this "situational" thinking in more detail and espe-

cially the transformations taking place in it under the influences of cultural and economic development. Special divisions of the inquiry undertaken by the different collaborators are here briefly described.—J. F. Dashiell (North Carolina).

4670. Marañón, G. L'evoluzione della sessualità e gli stati intersessuali. (The evolution of sexuality and the intersexual states.) *Riv. di psicol.*, 1934, 30, 26-29.—This article constitutes the introductory chapter of the author's book of the same title, in which he discusses the bisexual characteristics of the two sexes and the relative infrequency with which a distinct masculine or feminine organism appears in pure form.—T. M. Abel (Sarah Lawrence).

4671. Meshchaninov, T. T. Materialnaya kultura i myshlenie. (Material culture and thinking.) *Izvest. Akad. istor. materialn. kult.*, 1934, No. 100, 23-33.—The author insists upon the close connection between the history of material culture and linguistics. Language paleontology is the history of language and, consequently, the history of thought. The thinking of primitive man is materialistic, and one must not fail to take into account the material furnished by language in making archeological studies based upon the stone age epochs. However, the formal and comparative deductions of the linguist, the ethnographer, and the archeologist are open to grave error, in that they may give rise to serious anachronisms and are apt to modernize primitive psychology. The most remote epoch in the developmental stages of thought in primitive man is that in which nature and man are identified in the collective consciousness. The next period is one of cosmic thinking; nature is separated from the collective whole and is placed in opposition to human society. The following stage is characterized by the predominance of magic; it is rightly called the epoch of "magic" thinking.—E. Kagarov (Leningrad).

4672. Mursell, G. R. A new penal system. *J. Crim. Law & Crimin.*, 1934, 24, 1093-1097.—An ideal system of classification and segregation of prisoners is described in which a board composed of a psychiatrist, psychologist, and sociologist at a central clearing station recommends such matters as length and place of incarceration and the necessary physical, social, and mental therapeutic procedures to be followed in each case, and undertakes to prepare the prisoner for release into society. The system requires different types of institutional care for different kinds of prisoners.—L. Ackerson (Institute for Juvenile Research).

4673. Myslakowski, Z. Rodzina wiejska jako środowisko wychowawcze. (The rural family as an educational institution.) Warsaw-Lwów: Książnica-Atlas, 1931. Pp. 362. 1.4 zloty (paper).—A presentation of family case studies from Silesia, Poland, including an analysis of their sociological and educational aspects.—S. Blachowski (Poznan).

4674. Nabert, J. Les instincts virtuels et l'intelligence dans "Les deux sources de la morale et de la religion." (The virtual instincts and intelligence in *Les Deux Sources de la Morale et de la Religion*.)

*J. de psychol.*, 1934, 31, 309-336.—A critical evaluation of the concepts of instinct and intelligence in Bergson's *Les Deux Sources de la Morale et de la Religion*.—N. L. Munn (Pittsburgh).

4675. Paikin, M. S. [The nature of stuttering.] *Sovet. psikhonevr.*, 1933, No. 6, 68-73.—The reiterating of sounds and words by little children (3-5 years) is not an incipient stuttering, but a physiological age symptom. Being a definite stage in the speech development of children, this symptom disappears with the evolution of fluent speech, but under the influence of emotional stimuli the old primitive mechanism (clonus) can reappear. The clonic phenomenon can be classed amongst the early speech mechanisms.—A. Yarmolenko (Leningrad).

4676. Peter, H. *Die Graphologie als Hilfsmittel bei der Durchführung des Gesetzes zur Verhütung erbkranken Nachwuchses*. (Graphology as an aid in carrying out the law for the avoidance of hereditarily burdened offspring.) *Krim. Monatssch.*, 1934, 5, 97-101.—Limiting his consideration to mental defect, Peter demonstrates on the basis of three cases that analysis of the handwriting by Klages' methods gives insight into the intellectual and emotional characteristics of the criminal. The diagnosis of the graphologist, made solely on the script, agreed closely with the clinical characterization of the court psychiatrist. Graphology is the method par excellence to sort out the feeble-minded from other criminals in cases in which the judge's opportunity for observation is short and school data and psychiatric diagnosis are unavailable. In accordance with the 1933 law, feeble-minded criminals are subject to sterilization.—M. E. Morse (Catonsville, Md.)

4677. Petzelt, K. *Zur Psychologie der Tötung und Tötungsversuche aus sexuellen Motiven*. (The psychology of homicide and homicidal attempts from sexual motives.) *Breslau: Med. Diss.*, 1933. Pp. 48.—R. R. Willoughby (Clark).

4678. Schröder, H. *Experimentelle Untersuchungen über die Bedeutungserfassung*. (Experimental investigations of the comprehension of meaning.) *Arch. f. d. ges. Psychol.*, 1934, 90, 61-108.—Are images or more generally intuitive conscious contents (*anschauliche Bewusstseinsinhalte*) necessary for the comprehension of meaning? If so, does the mere awareness of them constitute comprehension or are they only components thereof? In an attempt to answer these questions, words and sentences corresponding to various concepts were presented orally and tachistoscopically to 16 adult subjects, who were in turn asked to give introspective reports of their reactions. From an analysis of these reports, the writer concludes that imagery, including centrally aroused feelings, is necessary for the comprehension of meaning, but that imagery alone is not sufficient to explain it. It is necessary to assume also an "act of thinking" which involves the realization of a relationship between the imagery and the "significance of the word-image in consciousness."—E. L. Kelly (Connecticut State).

4679. Schroeder, K. *Evangelischer Christ und Individualpsychologie*. (The evangelical Christ and individual-psychology.) *Int. Zsch. f. Indiv.-psychol.*, 1934, 12, 32-33.—A layman's laudation of the devotional-meeting type of Adler's practical contributions in his recent joint publication *Religion and Individual Psychology*.—O. N. de Weerd (Beloit).

4680. Sholl, C. V. *Human action and activity (action, motion, movement, inaction)*. (Sholl's word-lists, No. 6.) Flushing, N. Y.: Verbis Publ. Co., 1934. Pp. 380. \$1.00.—R. R. Willoughby (Clark).

4681. Simmons, P. W. *Statistical results of an eight year testing program of a psychological clinic in a charity hospital*. *Psychol. Clin.*, 1933, 22, 128-137.—A study of the Stanford-Binet and Witmer Form Board ratings of the children admitted as free cases to the Indiana University Medical Center over a period of eight years and tested in the psychological clinic of that institution. These children all came from homes of poor economic status, and may be regarded as typical charity cases. On both tests the group rates low. Slightly more than 75% of the cases fell below IQ 100, the average IQ being 84. According to the clinical diagnoses of the cases 63.8% rated as inferior, 21.5% as average, and 14.7% as superior.—J. T. Metcalf (Vermont).

4682. Steinbach, A. A. *Intelligence and juvenile delinquency*. *Elem. School J.*, 1934, 34, 691-697.—The writer administered Stanford-Binet examinations to 37 delinquents in the order in which they came to the Norfolk Juvenile Court. Socio-economic backgrounds and the "biological and temperamental equipment" of the children were studied. The investigation reveals that "the problem of juvenile delinquency is provoked by a number of causative factors." Stressed by the writer is the "disproportionate importance" frequently given by students of the problem to the "oft-discovered factor of intellectual deficit."—P. A. Witty (Northwestern).

4683. Sullenger, T. E. *Juvenile delinquency a product of the home*. *J. Crim. Law & Crimin.*, 1934, 24, 1088-1092.—A study of 1145 juvenile delinquents in Omaha indicates the importance of broken homes (death, divorce, or desertion among parents) as causative factors. The effect is more conspicuous among girl delinquents.—L. Ackerson (Institute for Juvenile Research).

4684. Taylor, G. *Environment and nation*. *Amer. J. Sociol.*, 1934, 40, 21-33.—Europe during the thousand years from A.D. 900 appears to be the best region and period for a study of the environmental factors determining the evolution of a nation. 74 homogeneous regions appear. Grouping and indexing these according to length of national life, or independent government, two distinct zones are formed: a zone of high-index nations, extending from Iceland to Aragon; and a low-index zone from Lapland to Morea and Sicily. For simplification the three medium-index zones are for the most part ignored, leaving two contrasting groups which may be used to test a number of correlations. As for religion and



race the high-index regions appear to be strongly Protestant and Nordic, and the low-index regions strongly Greek Church and Alpine. No causal relationship is assumed. Good rainfall seems favorable to national continuity, temperature has practically no bearing, and rugged regions on the whole are not favorable for continued national growth. Death-rates are considerably lower in regions of high than in those of low national index.—(Courtesy *Amer. J. Sociol.*)

4685. Thrasher, F. M. Social backgrounds and informal education. *J. Educ. Sociol.*, 1934, 7, 470-484.—The "facts" (or social values) by which individuals guide their conduct are largely gained through community and playground contacts during youth rather than through the program of the school. Illustrative material is drawn from the author's crimino-genetic study of delinquency areas. American education is criticized as being too standardized to meet adequately the problems that arise in particular communities.—W. McTeer (Wayne University, Detroit).

4686. Vater, H. Musikalische Produktion. Ihr Wesen, ihre effektive Leistung, ihr intentionaler Gehalt. (Musical production, its nature, its effective performance, its intentional import.) *Arch. f. d. ges. Psychol.*, 1934, 90, 1-60.—Sixteen girls 13 to 15 years of age were asked to sing or hum original melodies which they thought should accompany tapped rhythms, short phrases and sentences, or certain indicated feelings. Each response was recorded in musical notation. These are then carefully analyzed with respect to tempo, rhythm, originality, and other essential factors. The notation is given for 51 of the melodies.—E. L. Kelly (Connecticut State).

4687. Vlassova, N. [The principles and methods of speech education of preschool children.] *Sovet. neuropatol.*, 1932, No. 9, 582-590.—The organization and working methods of the psycho-orthopedic play group for stuttering children is described. A scheme for recording the improvement of speech is given, with a graphic diagram of the degrees of progress.—A. Yarmolenko (Leningrad).

4688. Wagner, G. Die Programmwünsche der österreichischen Radiohörer. (The program wishes of Austrian radio listeners.) *Arch. f. d. ges. Psychol.*, 1934, 90, 157-164.—A preliminary report of a questionnaire survey conducted by the Vienna Psychological Institute to determine the sort of program material preferred by the Austrian listener. "Popularity coefficients" were computed on the basis of 110,000 replies for each of the various program offerings. Marked sex, occupational, and age differences are reported.—E. L. Kelly (Connecticut State).

4689. Wakeman, S. Scholars! March! *Amer. Scholar*, 1934, 3, 352-354.—The author believes that the prospectus for the Congress of the German Association for Psychology which was convened in Tübingen on May 22, 1934, shows an undesirable transformation of the Association. The present government "has placed questions of race, narrow nationalism, and political belief above the former

educational ideals of the German people."—F. W. Irwin (Pennsylvania).

4690. Washco, A., Jr. The effects of music upon pulse rate, blood pressure and mental imagery. Philadelphia: Temple University, 1933. Pp. 269.—61 senior high school students were tested as follows: (1) pulse rate and blood pressure readings were taken, (2) phonograph record was played, (3) reactor suggested a title for the record and underlined on a list two words describing the music, (4) record was played again, (5) pulse rate and blood pressure readings were taken during the last minute of playing, (6) reactor wrote a story to describe the music and indicated whether rhythm, melody, or harmony was most significant. In subsequent periods the Seashore rhythm and Kwalwasser melodic and harmonic sensitivity tests were given and a questionnaire filled out. *Invitation to the Waltz*, a selection from *Madame Butterfly*, and *Intermezzo* from *Cavalleria Rusticana* lowered the pulse rate and blood pressure; *Rhapsody in Blue*, *Carnival Overture* (Dvorak), *Second Hungarian Rhapsody*, and *Stars and Stripes March* raised both; the *Freischütz Overture* had a less definite effect. Correlations between the various variables are for the most part small. Conclusions are drawn as to educational and therapeutic uses of the types of music represented. There are 58 pages of literature review and 23 pages of bibliography.—L. Petran (Peabody Conservatory of Music).

4691. Wright, H. M. Understanding human conduct and social relations. *Univ. Toronto Quar.*, 1934, 3, 321-348.—The mechanistic explanations of human conduct fostered by contemporary experimental social psychology are incomplete. This is because they neglect the intelligible meaning and value which words and objects obtain in social interchange. It is reasonable to assume that future explanations of human activities must include not only the physiological mechanisms underlying the behavior, but also such factors as the purposes and values which this distinctively human conduct is attempting to realize.—S. H. Newman (Clark).

[See also abstracts 4367, 4383, 4399, 4560, 4575, 4628, 4631, 4704, 4736, 4738, 4744, 4756, 4762, 4791, 4805, 4806, 4816, 4818.]

#### INDUSTRIAL AND PERSONNEL PROBLEMS

4692. Anderson, R. N. A comparative study of three vocational interest tests. *Psychol. Clin.*, 1933, 22, 117-127.—Three vocational interest tests, Strong's, Brainard's, and Hepner's, were given to 35 men who were taking courses in accounting and who were known to have an interest in this and related subjects. It was assumed that if the tests measured vocational interests, these men would rate high in accounting and in the related subjects, and would rate low in subjects not related, or only remotely related, to accounting. Strong's test rated the men in this way, and by this criterion appeared to be the best of the three. Of the other two Brainard's appeared to be somewhat better than Hepner's.—J. T. Metcalf (Vermont).

4693. [Anon.] [A report of the activity of different vocational guidance centers in Poland.] *Psychotechnika*, 1932, 6, 89-104; 144-160.—A description of the types and methods of work being carried out at four vocational guidance centers is presented. This includes the number of children examined at each center, as well as the number of candidates tested for vocational schools and for employment. In the theoretical field new tests and techniques are being developed, standardized, and evaluated.—(Courtesy *Année psychol.*)

4694. Ast, W. *Bewährung von Gesprächsproben.* (Validation of conversational tests.) *Indus. Psychotechn.*, 1934, 11, 15-17.—56 skilled and semi-skilled workers of the German State Railway, between 18 and 25 years of age, were given trade tests and were rated on the basis of conversational ability, general bearing, health, and cleanliness. A comparison of the two measures showed a substantial though not complete agreement. Practically all those testing high also had high ratings, and all rating low had low test results. However, many were rated high who tested low and many who tested low were rated high.—H. J. P. Schubert (Buffalo).

4695. Balchin, N. *Package appeal.* *Human Factor*, 1934, 8, 229-235.—The author discusses the functions of the package, distinguishing between the qualities which induce a first purchase and those which help to obtain repeat orders. He describes and criticizes the methods commonly used by firms in selecting packages, and urges that there should be fuller collaboration between the firm and the package artist, and that packages should be "tried out" before being placed on the market.—M. Horsey (National Institute of Industrial Psychology).

4696. Biegel, R. A. *An improved typewriter keyboard.* *Human Factor*, 1934, 8, 280-285.—A description of an improved typewriter keyboard which is adapted to the natural position of the hands and fingers and facilitates "blind" typing.—M. Horsey (National Institute of Industrial Psychology).

4697. Biegeleisen, B. *Rola matematyki w psychotechnice.* (The role of mathematics in psychotechnics.) *Psychotechnika*, 1933, 7, 163-183.—A discussion of the ways in which a psychotechnician should evaluate his results on the basis of statistical mathematics. Reference is also made to the use of mathematics not only as an instrument but also as a source of new psychological theory.—H. J. Wegrocki (Warsaw).

4698. Burt, H. E., & Frey, O. C. *Suggestions for measuring recklessness.* *Person. J.*, 1934, 13, 39-46.—Tests were given which ostensibly measured coordination or accuracy in adjusting apparatus, but in which some variation was possible in the mode of attack. It was suspected that the reckless individual would be tempted to make more hasty or fewer adjustments and that this tendency might be revealed by appropriate scoring. The tests involved such things as balancing a long rod, putting nuts on machine screws, and filling graduates with water up to a designated mark. A criterion with an estimated

reliability of .86 was obtained by means of a graphic rating scale. Six items of test score weighted in a regression equation yielded a multiple correlation of .60 with this criterion. Factor analysis of the inter-correlations between the tests suggests that the principal factor is one of haste, but there is a further suggestion that this tendency is modified somewhat by the apparent difficulty of the task and by the individual's awareness of his own mistakes.—(Courtesy *Person. J.*)

4699. Dilger, I. *Eignung, Leistung und Charakter bei Wagenmeistern.* (Ability, performance, and character of brakemen.) *Indus. Psychotechn.*, 1934, 11, 10-15.—The duties of the brakeman are, in general, the inspection and care of a railroad's rolling stock. A battery of trade tests for this occupation were devised. There were included tests of dexterity, quickness of reaction, geometrical insight and estimating ability. The ranks on this test battery showed a 90% correspondence with job ability. In addition a rating on character, reliability, willingness, perseverance, friendliness, etc., is recommended.—H. J. P. Schubert (Buffalo).

4700. Gallagher, E. J. *Vocational guidance and success.* (2nd. ed.) Milwaukee: Bruce, 1934. Pp. 214. \$1.20.—R. R. Willoughby (Clark).

4701. Gaskill, H. V. *What do you think of the personnel department?* *Person. J.*, 1934, 13, 17-20.—Data collected from 430 employee interviews reveal no widespread distrust of personnel departments. Confidence in the work of such departments was expressed by about three-fourths of those interviewed, although personnel work and "efficiency" work were believed to be the same thing by 83% of the group. Accuracy of notions regarding what a personnel department does seemed independent of actual experience with such departments.—(Courtesy *Person. J.*)

4702. Hayes, M. H. S. *Annual report of The Vocational Service for Juniors, 1933.* Pp. 26.—A comparative statement of the activities of The Vocational Service for Juniors during the last ten years. This is a philanthropic organization which is attempting to further an adjustment between the interests and abilities of young people and the requirements of their future work.—S. H. Newman (Clark).

4703. Hunt, L. I. *Voluntary decisions in industry.* *Human Factor*, 1934, 8, 220-228.—The making of voluntary decisions is an important cause of fatigue in industry, and the author describes various cases in which the need for such decisions has been reduced—the methods ranging from the re-designing of equipment to improvements in the framing of instructions and the allocation of responsibility.—M. Horsey (National Institute for Industrial Psychology).

4704. Jesinghaus, C. *La función social del servicio del orientación profesional.* (The social function of the service of vocational guidance.) *Rev. de crim. psiquiat. y med. leg.*, 1934, 21, 73-75.—An outline of the important services of the vocational guidance

specialist, the three main headings of which are: (1) public health, (2) social economy (unemployment prevention), and (3) the ethico-social aspect.—*R. M. Bellows* (Ohio State).

4705. **Kupke, E.** *Die Streuung der Stoppzeiten bei verschiedener Arbeitsgeschwindigkeit.* (The variability of stopping times at various working speeds.) *Indus. Psychotechn.*, 1934, 11, 44-48.—With the increase of speed accompanying practice, the variability of performance time decreases.—*H. J. P. Schubert* (Buffalo).

4706. **Link, H. C.** *A new method of testing advertising and a psychological sales barometer.* *J. Appl. Psychol.*, 1934, 18, 1-26.—A description is given of methods and results through experiments and questionnaire investigations among 14,000 consumers by 60 psychologists, representatives of the Psychological Corporation, throughout the United States. The significance of a new method of triple associates in testing the memory for advertisements is illustrated with results obtained on various products such as coffee, gasoline, building material, soap, etc. Statistical techniques are shown for testing the reliability and consistency of different samples of data at the same time, at different times, and in different localities. The results of these investigations seem to indicate "that all the many factors in advertising, hitherto considered important, such as size, repetition, frequency, position, use of color or black and white, etc., were relatively unimportant." The one most important factor in successful advertising is the character of the central idea or theme. Consistent results over a period of two years on the actual purchasing behavior of consumers and the association of advertising themes with products has led to the development of the sales barometer. This method shows sales trends for products over varying periods of time and throughout various localities in the country.—*R. S. Schultz* (Psychological Corporation).

4707. **Lippmann, O.** *Leistungskonstitution und Leistungsdisposition.* (Constitution and disposition in relation to performance.) *Kwart. Psychol.*, 1934, 5, 31-33.—A reply to the article on neuroses and accident incidence among automobile drivers by Mayerhofer and Rothe appearing in the same journal, with a discussion of the use of the terms *constitution* and *disposition*.—*T. M. Abel* (Sarah Lawrence).

4708. **Lisiecki, T. M.** *Arbeitsrationalisierung im modernen Industriebetrieb unter besonderer Berücksichtigung der Psychotechnik.* (Work rationalization in modern industry, with special reference to psychotechnics.) Poznań: Concordia, 1933. Pp. 126.—*R. R. Willoughby* (Clark).

4709. **Maier, E.** *Strichabstand und Strichdicke bei Skalen.* (The distance between and thickness of the lines of a scale.) *Indus. Psychotechn.*, 1934, 11, 20-28.—A study of eye movements revealed the fact that the smallest practical distance between lines of a scale is dependent, not upon the accuracy of fixation, but upon the magnitude of the slight eye movements after such fixation. The minimum oscillations

at fixation are of the magnitude of 7°, so that lines must be at least 0.8 mm. apart in order not to bring about blurring and fatigue. The minimum allowable thickness of lines for accurate scale reading varies with the distance between them. For distances of 0.5 mm., the optimal thickness is 0.125 mm.; for 1.0 mm., 0.2 mm.; and for 1.8 mm., 0.2 mm.—*H. J. P. Schubert* (Buffalo).

4710. **Maier, E.** *Form, Aufbau und Ablesung der Skala.* (Shape, formation and reading of scales.) *Indus. Psychotechn.*, 1934, 11, 37-42.—Optimal characteristics of scales were determined by eye-movement studies. The scale lines should be from one-fifth of the distance between lines to almost the full distance. The distance between lines should not be under 0.8 mm. With separations of from 0.5 to 2.0 mm., the thickness of the lines should be from 25 to 12% of the distance between. A slightly curved scale is read with least error, a straight scale introduces 15% more error, and a sharply curved one 40% error. Scales numbered at each major step are read with far less error than those unnumbered. Numbering is especially important for scales with irregular steps.—*H. J. P. Schubert* (Buffalo).

4711. **Martens, H. A.** *Der Sicherheitstalisman—ein Mittel zur Unfallverhütung.* (The "safety" placard—a means of accident prevention.) *Indus. Psychotechn.*, 1934, 11, 18-20.—The use of signs urging carefulness is strongly recommended as a means of accident prevention.—*H. J. P. Schubert* (Buffalo).

4712. **Mayerhofer, G., & Rothe, E.** *Neurose und Unfallneigung im Fahrerberuf.* (Neuroses and accident incidence among automobile drivers.) *Kwart. Psychol.*, 1934, 5, 1-30.—A preliminary report on psychotechnical testing of 33 subjects whose medical, physical and psychological history and constitution were known. The results indicate that there is a direct relationship between the neurotic constitution and the frequency of accidents.—*T. M. Abel* (Sarah Lawrence).

4713. **Miles, G. H., & Vincent, D. F.** *The Institute's tests for motor drivers.* *Human Factor*, 1934, 8, 245-257.—A description of the tests for motor drivers devised by the National Institute of Industrial Psychology in England. The tests (which give a correlation of .77 with other criteria of efficiency) cover reaction time, resistance to distraction, vigilance, visual activity, visual coordination, judgment of spatial relationships, judgment of relative size, judgment of speed, confidence, road behavior, and manipulative ability. It has been suggested in Parliament that the passing of certain of these tests should be made an essential condition of holding a driving license.—*M. Horsey* (National Institute of Industrial Psychology).

4714. **Moede, W.** *Unfälle und Nichtunfälle im Lichte der eignungstechnischen Untersuchung.* (Accident-prone and other workers in the light of technological capacity investigation.) *Indus. Psychotechn.*, 1934, 11, 1-10.—Accidents are the result of the interaction of environment and human capacities.



Precarious environmental conditions may be rendered less so by removal of flaws. Individuals differ in liability to accident. It is shown that the number and seriousness of accidents was decreased through a careful study of the causes of accidents and by directed dispersal of accident prevention knowledge.—*H. J. P. Schubert* (Buffalo).

4715. Myers, C. S. **The human factor in accidents.** *Human Factor*, 1934, 8, 266-279.—A discussion of the underlying mental and physical causes of factory and traffic accidents. The psychologist's approach to the problem of accident reduction is outlined, and a description is given of some of the methods hitherto followed, and the results obtained.—*M. Horsey* (National Institute of Industrial Psychology).

4716. Pierce, D. H., & Weinland, J. D. **The effect of color on workmen.** *Person. J.*, 1934, 13, 34-38.—The experiment described here was undertaken to examine the effect of color upon men working at the Bogardus factory test machine. Various colored lights were used, one by one, in a room painted white. The men were paid wages and employed for regular working days. Output was measured and introspective reports of bodily feeling were taken every fifteen minutes. The findings favored white and indicated that nervous excitation resulted when the colors deviated from white. Introspective feeling reactions were marked but not consistent. There was no evidence supporting the view that red is warm and blue is soothing. The results indicate that feeling responses to color are due to association of color with objects rather than to any inherent response to color itself.—(Courtesy *Person. J.*)

4717. Rubinstein, E., & Volgard, S. [The question of demonstration in technical propaganda.] *Psikhol.*, 1932, No. 4, 90-100.—The psychological basis of technical propaganda is given.—*A. Yarmolenko* (Leningrad).

4718. Seidel, A. **Gemeinschaftsarbeit von Konstrukteur und Betriebsmann.** (Cooperation between the designer and the manager.) *Indus. Psychotechn.*, 1934, 12, 34-36.—Cooperation alone leads to technically and professionally worthy achievements. The chief means of bringing about such mutual benefits are outlined.—*H. J. P. Schubert* (Buffalo).

4719. Siegelmann, H. **Intensität und Schwankung menschlicher Leistung.** (Intensity and variability of human performance.) *Indus. Psychotechn.*, 1934, 11, 48-52.—The greater the intensity of the work the less the variability. The relationship depends on (1) the type of work, whether mental or muscular, (2) the difficulty of the task, (3) the absolute difficulty, (4) the degree of practice, and (5) the duration of the work period. All performance involves a maximum degree of intensity.—*H. J. P. Schubert* (Buffalo).

4720. Stanton, F. N. **Memory for advertising copy presented visually vs. orally.** *J. Appl. Psychol.*, 1934, 18, 45-64.—"Fictitious advertising copy was presented visually by means of printed booklets and orally through a small public address system to four groups of college students. Testing 1 day, 7 days

and 21 days after stimulation by recall, aided recall, and recognition tests for correct trade-name-commodity associations built up by the two media showed the auditory method superior. Not all cases showing an auditory superiority were statistically significant. The peak of the superiority in the recall test came for the 7-day period. At the 21-day check both auditory and visual results were much lower and the margin between the two had suffered by the lapse of time. Throughout the experiment little difference in scores was noted between aided recall and pure recall tests. In recognition scores, the greatest auditory superiority occurred at 21 days."—*R. S. Schultz* (Psychological Corporation).

4721. Studencki, S. **O plakacie ostrzegawczym.** (Warning signs.) *Psychotechnika*, 1933, 7, 3-30.—A discussion of the type of sign most effective from the point of view of attention and interest in warning children against the dangers of "hitching" on the backs of street cars.—*H. J. Wegrocki* (Warsaw).

4722. Targonski, H. [The stability of psycho-technical evaluation in a repeated application of the tests.] *Psychotechnika*, 1932, 6, 57-65.—Mechanics and railway employes, aged 25 to 40 years, were given 12 tests on two occasions, the interval between the applications varying from two months to two years. The author presents arithmetic means, standard deviations, and average differences between the two trials ( $a_1 - a_2$ ). The significant value, as expressed by the relation  $\frac{a_0}{a_1 - a_2}$ , is given for each of the 12 tests. The author divides the tests into three categories: (1) those where the variations do not exceed 20% and which can be considered as measuring innate abilities; (2) tests measuring functions which can be improved by practice; (3) tests showing a variation whose meaning is not determined.—(Courtesy *Année psychol.*)

4723. Viteles, M. S. **The science of work.** New York: Norton, 1934. Pp. 442 + xi. \$3.75.—A popular scientific work covering the same ground as the author's *Industrial Psychology* (see VI: 4985). The book is intended primarily for the man in business, but it should be "helpful to vocational counselors, employment offices, directors of placement bureaus, economists, and others interested in the broader aspects of human welfare and adjustment at work." A historical chapter introduces the work and this perspective is kept throughout. Numerous charts, graphs, tables, and illustrations. Bibliography.—*D. Shakow* (Worcester State Hospital).

4724. Walther, L. **Poradnictwo zawodowe dla zawodów wolnych i jego podstawy psychologiczne.** (Vocational guidance in the professions and its psychological bases.) *Kwart. Psychol.*, 1934, 5, 34-58.—A discussion of the role played by general intelligence, general and special aptitudes, and various attitudes in the choice of and success in a professional career.—*T. M. Abel* (Sarah Lawrence).

4725. Weber, C. **Examensangst bei Kenntnisprüfungen.** (Examination anxiety in taking information tests.) *Indus. Psychotechn.*, 1934, 11,

53-55.—Following a discussion of the etiology and symptomatology of the examination psychosis, there are given suggestions for the avoidance and cure of this affliction.—H. J. P. Schubert (Buffalo).

4726. Wojciechowski, J. [On inclusive evaluations of results of psychotechnical tests.] *Psychotechnika*, 1932, 6, 124-132.—The author expresses the opinion that a small scale of notation is more suitable for the immediate practical purposes of selection and vocational guidance than a complicated and too precise system. He favors a scale of four degrees: good, moderately good, moderately poor, and unfit. These degrees would be determined by comparing the number of good (a), average (b), and poor (c) results obtained by the subject in the battery of tests. Thus, the good would be those whose  $a > b + c$ , moderately good  $a < b + c$  and  $b < c$ , moderately poor  $a < b + c$  and  $b < c$ , and the unfit  $a = 0$  or  $a < (b + c)/2$ . These records should be completed by observations on the character of the subjects.—(Courtesy *Année psychol.*)

4727. Wojciechowski, J. [First attempts at psychotechnical examinations at the School of Co-operators.] *Psychotechnika*, 1932, 6, 140-143.—The School of Co-operators is a vocational secondary school which trains employes for various cooperatives. The author presented to the candidates two batteries of tests: a collective examination containing six tests, and an individual examination comprising four tests. Following a year of training the author compared the psychotechnical results with the opinion of the pedagogic council of the school for 28 subjects. Yule's coefficient of correlation was .875 (the subjects had been classed as good and poor on the tests and as having passed or not passed to a higher grade).—(Courtesy *Année psychol.*)

4728. Wrenn, C. G. Vocational satisfaction of Stanford graduates. *Person. J.*, 1934, 13, 21-24.—Of 2424 Stanford University alumni selected as a sampling of the total thirteen-odd thousand, 19% would not re-select their present vocation. This representation of vocational dissatisfaction spreads over 71 of the 91 vocational fields in which members of the total group engage. The data indicate that the professions suffer fully as heavily as do the business occupations. Vocational satisfaction is found to be more closely related to the consistency of the vocational choice made in college than to the occupation chosen.—(Courtesy *Person. J.*)

[See also abstracts 4380, 4384, 4617, 4632, 4745, 4754, 4789, 4814.]

#### EDUCATIONAL PSYCHOLOGY

4729. American Educational Research Association. The curriculum. *Rev. Educ. Res.*, 1934, 4, 123-252.—"This issue of the *Review of Educational Research* is confined to research studies completed during the last triennium, which bear on courses of study and curriculum construction, and to an introductory chapter which discusses the use of these researches by curriculum builders." The bulk of the volume is devoted to curriculum investigations at the elemen-

tary and secondary school levels. Short chapters deal with "Evaluation of Courses of Study and Textbooks" and "Curriculum Investigations at the Teacher-Training, College and University Levels." A bibliography of 889 titles is appended.—S. M. Stoke (Mount Holyoke).

4730. Bain, W. E. A study of the attitudes of teachers toward behavior problems. *Child Development*, 1934, 5, 19-35.—Through the use of Wickman's scale for measuring teachers' attitudes toward children's behavior, comparisons were made of the attitudes of Columbia University students before and after their courses in child psychology, parent education, and teacher training. The original study was carried out in 1927 and repeated with comparable classes in 1932. The earlier groups ranked problems of sex morality and dishonesty as most serious, and conduct which disturbed class-room routine as least serious. At the end of their courses they attached more seriousness to problems of unsocial, introverted, and recessive types; and their rankings thereby tended to correlate more highly with those of a group of mental hygienists. The incoming students in 1932 gave rankings which correlated still more highly with the mental hygienists, and these rankings were very little affected by the content of their courses.—F. D. McTeer (Wayne University, Detroit).

4731. Betts, G. H. Verbal versus actual solutions of educational problems. *Educ. Trends*, 1934, 3, 1-6.—A discussion concerning the neglect on the part of educators to put into actual practice certain accepted educational theories and philosophies.—H. W. Karn (Clark).

4732. Birnbaum, F. Umerziehung in der Schule. (Corrective education in the school.) *Int. Zsch. f. Indiv.-psychol.*, 1934, 12, 33-37.—Discussion of ways and means for appeals to school children in bringing about changed attitudes toward their associates and their work. Presentation is in the form of a dialogue.—O. N. de Weerd (Beloit).

4733. Cockerell, T. D. A. The relative ability of men and women. *J. Hered.*, 1934, 25, 163-164.—At the University of Colorado women students have had higher average grades than men students during each of 43 terms or semesters.—B. S. Burks (California).

4734. Courtis, S. A. The derivation of norms. *J. Exper. Educ.*, 1934, 2, 237-242.—Analysis of specific studies reveals that gross injustice is done many children by comparing their scores with measures of central tendency which take no account of the different stages in the developmental process which the scores represent. It is the author's contention that in the future more attention than at present will need to be given to determining the individual pattern of growth and to interpreting scores in terms of that pattern. To this end it will be essential that school records of tests and measurement be so made and kept as to supply data for studying the individual growth curves.—H. W. Karn (Clark).

4735. Dudycha, G. J. The beliefs of college students concerning evolution. *J. Appl. Psychol.*, 1934,

18, 85-96.—A list of 25 propositions were rated by 1054 college freshmen and seniors on a five-point scale from implicit belief to absolute disbelief. Freshmen were less inclined to believe various propositions concerning evolution than seniors, and both groups were less willing to express belief in evolution itself. The freshmen expressed 23% implicit belief in evolution itself and 28% absolute disbelief, while the seniors expressed 61% implicit belief and 5% absolute disbelief.—*R. S. Schultz* (Psychological Corporation).

4736. Farnsworth, P. R. **Familiarity with the names of musicians.** *J. Appl. Psychol.*, 1934, 18, 97-102.—The names of 90 musicians were submitted to 100 students at each high school level and to 200 college sophomores. The students showed marked agreement (correlations .92 to .99) in checking familiarity of names.—*R. S. Schultz* (Psychological Corporation).

4737. Fay, P. J., & Middleton, W. C. **An economical method of administering and scoring new-type examinations.** *J. Appl. Psychol.*, 1934, 18, 77-84.—True-false, matching, subject-predicate, mutilated sentences, cross-out, and best-answer examination questions are mimeographed; and special answer sheets 8½" x 11" are used containing 200 numbers on each side for recording responses. With the aid of a stencil 30 to 40 answer-sheets of 200 mixed-item new-type examination questions can be scored per hour. The original mimeographed examination questions can thus be used repeatedly.—*R. S. Schultz* (Psychological Corporation).

4738. Finney, R. L., & Zeleny, L. D. **An introduction to educational sociology.** Boston: Heath, 1934. Pp. 346. \$2.40.—*R. R. Willoughby* (Clark).

4739. Gelmont, A. M. [The rationalization of the time budget of school children and Pioneers.] *Pedol.*, 1932, No. 7, 37-44.—The Institute of Scientific Research of the children's communist movement has investigated the effect of the decree on the organization of school life. A positive effect of the time organization was found.—*A. Yarmolenko* (Leningrad).

4740. Greene, E. B. **Certain aspects of lecture, reading and guided reading.** *School & Soc.*, 1934, 39, 619-624.—The investigation is concerned with the problem of the relative efficacy in the teaching of college students of the lecture and guided and unguided reading. About 650 students, mostly sophomores, took part in the study, 29 being the average number in a class. Six topics were presented either as a lecture or as material to be read, the presentation time being 25 minutes. A 15-minute true-false quiz designed to tap information and ability to draw inferences followed the presentation immediately, while a delayed retention test was given one to six weeks later. The reliability of the tests was .62. Correlations between scores on the immediate and delayed test (one week) ranged from .47 to .86. Control of significant variables was attempted by the method of equivalent groups, the author taking into account when equating groups such factors as age, sex, schooling, and standing on a

general mental test. By means of a rotation procedure some of the equivalent groups were exposed to all types of presentations. In other cases, a group was exposed to only one type. Lectures and unguided reading seemed equally effective when the group was considered as a whole. The good readers, however, profited more from the reading than the lectures, while for the poor readers the reverse was true. Guiding the reading by giving the student questions to answer raised the score on the immediate test from 57 to 83% and on the delayed test from 46 to 64%. The inference items were retained slightly better than the information after the guided reading procedures but not after the lecture. Note taking had no effect on the immediate or delayed test unless the student was permitted access to his notes during the test. Granting this privilege seemed to increase the student's score on the information but not on the inference items.—*H. L. Koch* (Chicago).

4741. Lee, J. M., Clark, W. W., & Lee, D. M. **Measuring reading readiness.** *Elem. School J.*, 1934, 34, 656-666.—The writers describe two attempts to predict the reading readiness of children entering the first grade. One method made use of the Lee-Clark Reading Readiness Test; the second method utilized kindergarten teachers' ratings. The reading-readiness test predicted success somewhat better than did two intelligence tests. Teachers' ratings proved more variable than, and failed to predict reading success as well as, the reading-readiness test. The test has a reliability of .97; its validation is described.—*P. A. Witty* (Northwestern).

4742. Librachowa, M. **Psychologia pedagogiczna. W ěwiczeniach.** (Pedagogical psychology, with exercises.) Warsaw: Gebethner & Wolff, 1933. Pp. 264. 7.50 zloty (paper).—This book attempts to apply exercises on a large scale as a didactic means in the teaching of educational psychology.—*S. Blachowski* (Poznan).

4743. Lippert, E. **Mädchen äussern sich zur Reform der Mädchenerziehung.** (Girls express themselves on reform in bringing up girls.) *Zsch. f. Jugendk.*, 1934, 4, 84-91.—Girls in a domestic science and professional training school were asked to describe the ideal general and special training for girls and express their opinions in regard to the present and future professional status of women. 11 of the voluntary anonymous returns from girls aged 13.6 to 24.0 are quoted in full. These range from mild conviction that domestic arts are alone necessary or a militant adherence to Hitler's views on marriage and motherhood as the sole goal, to an equally vehement advocacy of equality with men in educational opportunity and professional training.—*M. Lee* (Chicago).

4744. Low, H. B. **What is the field of school music?** *Peabody Bull.*, 1933, 30, No. 1, 18-20; 1934, 30, No. 2, 16-22.—Expenditures of tax money for school music have been under criticism during the depression years and call for justification. The school music situation is unsatisfactory in many ways: (1) there are not enough trained musicians in



the field, (2) too little time is given to it, (3) chorus singing and music reading should be emphasized more, (4) there is a need for more satisfactory achievement tests, (5) continuity in the course of study from one grade to another and through the grades to the high school is often lacking, (6) courses of study for the senior high school are rarely found and often vague, and (7) music classes are often made catch-alls for disciplinary cases and those students who can do nothing else. If music teaching has to be given up in any part of the school system it should at least be kept in the first six grades, as likes and tastes are most easily formed there. A brief history of school music in the United States is given.—*L. Petran* (Peabody Conservatory).

4745. Macrae, A. Professor Thorndike on vocational guidance. *Human Factor*, 1934, 8, 205-219.—Thorndike, in his *Prediction of Vocational Success*, describes experiments whose results, in his view, "are not in accord with the opinion . . . that an examination of a boy or girl of 14, and a study of his school record, will enable a counselor to estimate his [vocational] fitness." He explains the different results obtained from "follow-up" experiments in England as due either to the omission of cases who could not be traced, and who may have been unfavorable, or to bias, conscious or unconscious, in the ratings of occupational success. Macrae deals with these objections, and urges that the methods used by Thorndike are a travesty of vocational guidance—consisting, as they do, of the mechanical administration of tests by untrained persons, and the subsequent working out of correlations between test scores and success in arbitrarily composed groups of occupations. The failure of such methods, Macrae maintains, was to be expected; but it is quite unjustifiable to argue from their failure to the uselessness of vocational guidance as practised in England.—*M. Horsey* (National Institute of Industrial Psychology).

4746. Morris, E. H. Some results secured in personnel work in a teachers college. *School & Soc.*, 1934, 39, 574-576.—Correlations were computed between academic averages, health, practice teaching grades, and scores on an intelligence test, a neurotic inventory, and a social traits test. The object was to determine whether relationships of value in the prediction of various sorts of accomplishments could be discovered. The author concludes that grades in practice teaching have some value in the prognostication of success in teaching, but the criteria of the latter are as yet inadequate. Interrelationships between the various scores are more important in prediction than the scores taken singly and interpreted in terms of some norm.—*H. L. Koch* (Chicago).

4747. Mudge, E. L. More current history. *School & Soc.*, 1934, 39, 673-674.—The author in a questionnaire on current history given to 164 unselected college students asked for the identification of 15 individuals and the location of 15 places which have been more or less in the limelight recently. The median score for the group (one point was given for

each of the 30 items) was 13.5, and the range 3.5 to 26.5.—*H. L. Koch* (Chicago).

4748. Peterson, A. G. The training of elementary and secondary teachers in Sweden. *Teach. Coll. Contrib. Educ.*, 1934, No. 575.—*J. M. Stalnaker* (Chicago).

4749. Sauvain, W. H. A study of the opinions of certain professional and non-professional groups regarding homogeneous or ability grouping. *Teach. Coll. Contrib. Educ.*, 1934, No. 596. Pp. viii + 151.—16 superintendents of the 107 addressed consented to have the opinions of the children, parents, teachers, and school officials investigated regarding homogeneous grouping. The questionnaire method was used. 1,677 (73%) parents, 462 (79%) teachers and about 79% of the principals returned the material. Parents are favorable to ability grouping, although parents of pupils in slow sections frequently do not know what section their offspring is in. Teachers and school officials are more favorable than parents, although teachers do not prefer to teach slow groups. The bibliography lists 111 titles. 9 appendices give the questionnaires used and additional data concerning the responses.—*J. M. Stalnaker* (Chicago).

4750. Seracky, F. Badania abiturjentów szkół średnich i studentów w Czechosłowacji. (Investigations of the graduates and students of the intermediate schools in Czechoslovakia.) *Psychotechnika*, 1933, 7, 98-103.—The Central Psychotechnical Institute in Prague investigated 356 students. The research included (1) questionnaires dealing with personal data, attitudes to subjects of study, extra-curricular interests, self-evaluation with respect to character, choice of vocation and motives, and (2) tests of intelligence and vocational tests.—*H. J. Wegrocki* (Warsaw).

4751. Stalnaker, J. M., & Stalnaker, R. C. Open-book examinations. *J. Higher Educ.*, 1934, 5, 117-120.—A discussion of the values of allowing students to use their textbooks and notes in answering examination questions.—*J. M. Stalnaker* (Chicago).

4752. Stewart, H. H. A comparative study of the concentration and regular plans of organization in the senior high school. *Teach. Coll. Contrib. Educ.*, 1934, No. 600. Pp. v + 66.—180 10th-year students were divided into two groups on the basis of intelligence and achievement. All pupils studied four subjects each term. The concentration group had 8 weeks of 110-minute periods and the regular groups 16 weeks of 40-minute periods. In the second term 80-minute periods were used. The achievement evidence favors the 80-minute period. A retention study, however, showed the 80-minute period material in geometry had been forgotten more rapidly. Concentration groups reported less home work. Pupil adjustment as measured by the Symonds Adjustment Questionnaire was in favor of the regular plan. Greater participation in extra-curricular activities (under the concentration plan) is suggested by the evidence. Questionnaire data from the pupils about the two plans are presented. 75% opposed the concentration plan. Teachers' reactions to the concen-

tration plan are given. The bibliography lists 27 titles.—*J. M. Stalnaker* (Chicago).

4753. **Street, R. F.** Factors related to maladjustment in school. *Elem. School J.*, 1934, 34, 676-680.—To the mental hygiene division, or psychological clinic, of the W. W. Kellogg Foundation, 107 elementary school boys and girls were referred because of failure in academic subjects. The failure of 63% of these pupils was attributed primarily to "mental immaturity." The achievement of these children was commensurate with their mental ability; therefore, treatment involved administrative changes. Special deficiencies in the tool subjects, especially in reading, characterized the failures of 23% of the group. The remaining 14% (15 cases), who failed because of "personality difficulties," were studied carefully. The case histories of most of these children "seemed to indicate fear reactions as the core of the personality make-up, with insecurity in the home situation as the chief contributing factor. These conditions were aggravated in some cases by lowered physical resistance, parental conflicts, and gang influences." Adjustments to the school situation, two and one-half years later, were successfully made in 60% of the cases. "In the adjusted group all the children manifesting shy, withdrawn behavior were found. Among the 40% failing to make adjustments, five out of six manifested their underlying fear by extroverted compensatory activities. This finding indicates that, from the standpoint of academic adjustment, a much more difficult element is present in the compensating cases than in the withdrawn cases."—*P. A. Witty* (Northwestern).

4754. **Striener, A.** Unfallverhütung durch die Mütter. (Mothers' place in accident prevention.) *Indus. Psychotechn.*, 1934, 11, 43-44.—Training in accident prevention must take place in childhood. Therefore, a great responsibility is placed on the mothers for such training.—*H. J. P. Schubert* (Buffalo).

4755. **Thompson, W. H.** Intelligence tests in American colleges. *School & Soc.*, 1934, 39, 790-792.—Of 193 colleges and universities for which as a result of questionnaire returns or published reports data were available concerning the intelligence-test performance of entering students for the years 1930-1933, 58% reported a gain in the average test score; 1% a loss; 15% no change; and 26% non-usable findings. How much of this apparent gain is due to the non-equivalence of the tests used, how much to selective influences of the depression upon college entrants, and how much to fundamental biological changes, the author believes is not clear. Few colleges in the U. S. are not using intelligence tests for one purpose or another; but apparently a considerable number do not have their programs stabilized or well managed.—*H. L. Koch* (Chicago).

4756. **Tovell, M. L.** Teacher training in public school music. *Peabody Bull.*, 1934, 30, No. 2, 38-42.—The best training for the teaching of public school music comes from studying concurrently at a high grade normal school, college, or university and an

equally high grade conservatory of music. Neither type of institution alone is equipped to give the most complete training. A list is given of such co-operating academic and music schools.—*L. Petran* (Peabody Conservatory).

4757. **Trimble, O. C.** The oral examination; its validity and reliability. *School & Soc.*, 1934, 39, 550-552.—To get light on the question of the value of the oral examination, 3 members of the education faculty at Purdue University examined orally, for 12 minutes each, 25 upper-class and graduate students. The students, who were taking a course in applied psychology, were warned beforehand that they would be given an oral examination on a major topic of their own choosing. Performance was rated on 9 points, among which were the following: judgment shown in the selection of a topic, ability to state facts exactly, ability to elaborate a topic, insight into questions of theory and application, ability to refute an argument, and vocabulary. Between the corresponding ratings made independently by the 3 examiners correlations were computed. These *r*'s were rather low, ranging from -.231 to .796. A composite of the 9 ratings showed much higher inter-observer agreement, the *r*'s being .489, .611, and .712 respectively for the 3 pairs of examiners. The reliability of a composite rating based on the opinion of all examiners was estimated to be .821, a value much above that of the coefficients for the estimates of general performance level. The student's score on an objective examination covering the course and the composite ratings correlated from .306 to .639, depending on the examiner. It is concluded that the oral examination may be as reliable and valid as the ordinary objective examination.—*H. L. Koch* (Chicago).

4758. **Upshall, C. C., & Masters, H. V.** An analysis of the scores of eighth-grade pupils and normal school students on certain objective tests. *J. Exper. Educ.*, 1934, 2, 310-316.—Five achievement tests (history, geography, English, arithmetic reasoning, and arithmetic computation) were given to three groups of students: (a) a random sample of eighth-grade pupils, (b) all students entering the Washington State Normal School at Bellingham, (c) the 125 students of the total entering group who were about to graduate from the two-year normal course at the end of six quarters. Group (c) took the tests twice—upon entrance to the institution and just before graduating. The Thorndike Intelligence Examination for High School Graduates, Part I, was also given to groups (b) and (c). The main findings are summarized as follows: (1) Students who enter the normal school make significantly better scores on all the tests (with the exception of arithmetic computation) than eighth-grade pupils. (2) Students who graduate from the two-year normal course in six quarters make significantly higher scores on all the tests, when taken just before graduation, than eighth-grade pupils. (3) The variability of the scores of the tests taken upon entrance was greater than the variability of the scores of the tests taken

just prior to graduation in the case of Thorndike, arithmetic reasoning, arithmetic computation and English; but it was less in the history and geography tests. (4) The students who were required to take retests made gains in score which were twice to ten times as great as the gains made by students who met the training-school requirements on their first trial.—*H. W. Karn* (Clark).

4759. **Van Tuyl, K., & Eurich, A. C.** *Measuring the interests of college students with different major subjects.* *J. Appl. Psychol.*, 1934, 18, 27-44.—A group of 245 juniors and seniors majoring in English, social science, foreign language, natural science, mathematics and educational administration—supervision were equated as to "intelligence" on the basis of the Miller analogies test, the Minnesota reading examination, and the Peterson equation completion test. The Minnesota interest blank, adapted to measuring scholastic interests and social-mechanical interests, given to this group, revealed marked differences in interest scores between the "science-mathematics" and the "social-language" groups. Interest scales were developed for each major subject. The natural science interest scale was found to be most differentiating and the social science interest scale least differentiating from other subject major groups. Correlations between interest scores and honor points in major subjects were found to be low.—*R. S. Schultz* (Psychological Corporation).

4760. **Wagner, M. E., & Strabel, E.** *A comparison of the abilities of high school and college students.* *Univ. Buffalo Stud.*, 1934, 9, Chap. 4.—Grades IX, X, XI, and XII together with college freshmen were given the Buffalo Reading Test. In reading speed and comprehension, there is a wide overlapping of ability from grade to grade. "There are high school freshmen who read as well as the ninetieth centile college freshman, and college freshmen who read as poorly as the fourth centile ninth grade student." The American Council Psychological Examination was given to all 1931-32 Buffalo high school sophomores, to "selected" college entrance high school juniors, and to college freshmen. Here too a considerable overlapping of ability was found between the various groups studied. "8% of the high school sophomores and about 10% of the 'selected' juniors made better scores than 75% of college freshmen." An analysis of scores on the sub-tests of the psychological examination showed that the high school students made almost as good scores as the college freshmen on the artificial language, analogies, and arithmetic sub-tests, while they were inferior on the completion and opposites sub-tests. "It is unlikely that superior high school juniors and seniors are limited in their ability to do freshman college work creditably in so far as reading ability or the type of aptitude measured by the psychological examination is concerned."—*H. J. P. Schubert* (Transient Bureau, Buffalo).

4761. **Webb, L. W.** *Some trends in educational psychology.* *Educ. Trends*, 1934, 3, 20-27.—A discussion of some changes in emphasis taking place in

educational psychology as revealed by a comparison of recent texts in the field. The author observes: (1) a marked tendency to get away from the emphasis on heredity in general and instincts specifically, (2) less emphasis on the so-called laws of learning as an important topic in educational psychology, (3) a tendency away from the purely psychological and more of an emphasis on the educational aspects of the subject, (4) increased emphasis on the topic of growth, (5) more attention given to motivation and adjustment, (6) an effort to apply psychological principles to the methods and materials of the classroom.—*H. W. Karn* (Clark).

4762. **Wells, A.** *A comparison of chord figures and scale progressions in early school music learning.* *Peabody Bull.*, 1933, 30, No. 1, 21-23.—School music texts usually teach the singing of chord figures before scale progressions. However, analysis of 72 common folk songs used in school primers shows that scale progressions are 3.7 times as frequent as chord figures, and an informal experiment with 25 children indicates that scale progressions are from two to three times as easy to learn as chord figures.—*L. Petran* (Peabody Conservatory).

4763. **Williamson, E. G., & Christian, A. M.** *Vocational advisement of disabled college students.* *Occup. Therap. & Rehab.*, 1934, 13, 179-184.—At the University of Minnesota disabled students are referred to the Testing Bureau, where they are tested with reference to mechanical, artistic and clerical ability, space relations, dexterity, etc. Many of them had been given too much encouragement as to vocational success and had to be reoriented. Typical problems are: motivating those with poor morale; reconciling those who should take one or two years' university work and then secure a routine job; relieving special cases of some required sequences of courses; discovering mental disorders of which the student was unaware.—*H. E. Burt* (Ohio State).

4764. **Witty, P. A.** *Diagnosis and remedial treatment of reading difficulties in the secondary school.* *Educ. Trends*, 1934, 3, 7-13.—The author reports the results of an analysis of the reading of 50 ninth-grade children who were examined in the educational clinic of Northwestern University. The children had been referred to the clinic because their teachers had observed in them repeated manifestations of faulty reading habits. Scores on a series of reading tests revealed that the children were retarded about two years in terms of grade placement. Strict adherence to a specific set of remedial measures resulted in changing the attitude of the pupils toward reading, and in increasing their reading skills remarkably. "Chief among the vital elements in the success of the program were: complete and thorough diagnosis of each case, group work which required reaction to the imagery in short episodic accounts, immediate check upon every child's reaction to detail, provision of supplementary reading related to carefully ascertained interests, use of individual progress records, and integration of the work done during the reading class with that of other classes. This program



was carried out in a class which met daily, and in which the sole purpose was to improve general reading ability."—H. W. Karn (Clark).

4765. Yates, D. H. How the depression and its consequences have affected teachers college students. *School & Soc.*, 1934, 39, 571-574.—A questionnaire concerning the financial, vocational, and mental consequences of the depression for them was given to 239 teachers college students (162 women and 77 men). As compared with pre-depression days, greater economy was generally alleged to have been practiced, and worry, often to an extreme degree, to have been suffered; but greater seriousness of purpose, more altruism, and greater interest in world affairs seem for many to have been compensating effects.—H. L. Koch (Chicago).

[See also abstracts 4561, 4593, 4614, 4648, 4653, 4663, 4685, 4687, 4693, 4702, 4704, 4724, 4727, 4771, 4792, 4800, 4814, 4818.]

## BIOMETRY AND STATISTICS

4766. Baten, W. D. Combining two probability functions. *Ann. Math. Stat.*, 1934, 5, 13-20.—This paper presents certain results arising from the combination of two probability functions in determining the probability function for the sum of two independent variables.—J. W. Dunlap (Fordham).

4767. Dickey, J. W. On estimating the reliability coefficient. *J. Appl. Psychol.*, 1934, 18, 103-115.—A formula for estimating the reliability coefficient of a test for one range when the coefficient of this test is known for another range,  $\frac{\sigma}{\Sigma} = \frac{1 - \sqrt{R}}{1 - \sqrt{r}}$  is developed and compared with Kelley's formula  $\frac{\sigma}{\Sigma} = \frac{\sqrt{1-R}}{\sqrt{1-r}}$ . The new formula is considered better because it estimates a reliability coefficient with a smaller standard error.—R. S. Schultz (Psychological Corporation).

4768. Dunlap, J. W., & Kurtz, A. K. D-K statistical slide rule. New York: Psychological Corporation, 1934. \$1.00.—Devised to shorten the labor involved in computation of statistical formulae. The slide rule can be used to obtain, among other formulae, the coefficient of alienation, the standard and probable errors of estimate, the standard and probable errors of measurement, the approximate and probable errors of the corrected rank correlation coefficient, and the standard error of the mean. Line graphs on the back of the rule enable the user to obtain squares and square roots, to convert standard deviations to area, and to obtain the reliability of a test when the reliabilities of comparable halves are known. Directions and practice exercises illustrating various uses of the rule are printed on the back of the slider.—R. S. Schultz (Psychological Corporation).

4769. Eden, T., & Yates, F. On the validity of Fisher's  $z$  test when applied to an actual example of non-normal data. *J. Agric. Sci.*, 1933, 23, 6-17.—(*Biol. Abst.* VIII: 12921).

4770. Feldstein, M. J. A new technique for machine computation of coefficients of correlation.

*J. Exper. Educ.*, 1934, 2, 278-282.—A description of certain time-saving techniques which have been used in the laboratory at Western Reserve University in the computation of coefficients of correlation.—H. W. Karn (Clark).

4771. Lincoln, E. A. The insignificance of significant differences. *J. Exper. Educ.*, 1934, 2, 288-290.—The author shows, by means of analysis of specific studies, that the present ordinary method of studying and reporting the significance of differences is, in certain instances, quite inadequate. This is particularly true when practical questions of school procedure are under consideration, for the difference that is statistically significant may turn out to be relatively unimportant when the facts of overlapping are considered. The suggestion is made that research workers supplement their critical ratios with studies of overlapping in order to reveal the extent to which statistically significant differences are practically insignificant.—H. W. Karn (Clark).

4772. Long, J. A. Improved overlapping methods for determining validities of test items. *J. Exper. Educ.*, 1934, 2, 264-267.—The author describes an overlapping method of determining item validities which makes more refined use of the data presented, and which is not subject to the grave inconsistencies of the Vincent overlapping method. Application of the new technique is illustrated in two hypothetical examples.—H. W. Karn (Clark).

4773. Macewicz, P. [The coefficient of correlation.] (Summary of a communication made to the VIIth International Conference at Moscow.) *Psychotechnika*, 1932, 6, 20-24.—The coefficient of correlation can be expressed by the cosine of the angle formed by two straight lines, each representing a series of measures. If these lines are expressed by  $y = m_1x + b$  and  $y = m_2x + b_2$  and the angle formed by them by  $\alpha$ , the coefficient of correlation will be  $\cos \alpha = \frac{1 + m_1m_2}{(1 + m_1^2)(1 + m_2^2)}$ . If the lines are not straight but curved, then  $x$  and  $\cos \alpha$  are variables, and a function must be found which expresses the variability of  $\cos \alpha$ . To obtain values for the coefficient of correlation it is sufficient to determine the angles formed by tangents at corresponding points of the given abscissa, from which the derivatives of the functions can be found. These give us the values of the tangents of the angles formed by the curves with the positive direction of the abscissa. The coefficient of correlation is calculated for determined values of the abscissae by substituting the tangents  $\alpha$  found in the formula of  $\cos \alpha$ .—(Courtesy *Année psychol.*)

4774. Mori, H. Tables of  $\log(1-r)^2$  for the calculation of coefficients of partial correlation. (Text in Japanese and tables in English.) *Jap. J. Genet.*, 1933, 8, 131-136.—(*Biol. Abst.* VIII: 12923).

4775. Ogburn, W. F. Limitations of statistics. *Amer. J. Sociol.*, 1934, 40, 12-20.—Zeal for statistics sometimes blinds one to its limitations as an instrument of discovery, as a form of language, as a contributor to understanding, as a device for holding factors constant, and as an aid in constructing a

composite account; as well as its obvious limitations in fields where the social sciences deal with the unique.—(Courtesy *Amer. J. Sociol.*)

4776. Schmidt, R. Statistical analysis of one-dimensional distributions. *Ann. Math. Stat.*, 1934, 5, 30-72.—In the analysis Schmidt deals with the inverse of the integral function, and proposes to replace the frequency function by its best values. These best values are used as the basis for the application of the theory of orthogonal systems to the statistical analysis of uni-variate distributions. At the conclusion of the theoretical discussion methods are outlined for computation together with adequate checks for the work.—J. W. Dunlap (Fordham).

4777. Toops, H. A. On the systematic fitting of straight line trends by stencil and calculating machine. *Ann. Math. Stat.*, 1934, 5, 21-29.—The fitting of a straight line to observed data when there is only one plotting point corresponding to each of  $n$  successive abscissal values is simplified by the method described by Toops. This simplification is secured by certain transformations of the usual formulas, the preparation of tables, the use of a stencil, and clear specific directions for the adaptation of the arithmetic to a computing machine.—J. W. Dunlap (Fordham).

4778. Tryon, R. C. A correlation form with absolute checks. *J. Exper. Psychol.*, 1934, 17, 477-483.—The author describes a new correlation form which is characterized by the following features: (1) a rigorous checking system is provided for all the work; (2) the grid contains 25 rows and 25 columns; (3) no accessory device is required to calculate the sum of the diagonals; (4) cells in the grid are large enough for at least 15 entries; (5) standard symbols are used throughout except in a few of the last calculations resulting in  $r$ ; (6) space and formulae are provided for probable errors of all constants, and for corrections of  $\sigma$  and  $r$  for broad categories; (7) a complete order of operations is provided; (8) various relevant formulae with probable errors are given. The new form has the standard dimensions of  $8\frac{1}{2}$  by 11 inches and is printed on stiff yellow ledger paper.—H. W. Karn (Clark).

4779. Walker, H. M., & Sanford, V. The accuracy of computation with approximate numbers. *Ann. Math. Stat.*, 1934, 5, 1-12.—The writers derive certain rules for the determination of the minimum number of digits that are correct in computation. In any given problem the results may be more accurate than the rules indicate. An adequate review of the basic results is given in their summary, which follows: "On the assumption that an error of  $n$  places affects only  $n$  places in the result we have the following rules: If the less accurate of two approximate numbers contains  $n$  significant digits, their product and their quotient each contain  $n$  or  $n-1$  significant digits. The square root of a number contains as many significant figures as the number. About once in four times, the error will affect one more place than these rules state."—J. W. Dunlap (Fordham).

4780. Wilson, E. B. On resolution into generals and specifics. *Proc. Nat. Acad. Sci.*, 1934, 20,

193-196.—The author gives a detailed statistical treatment of certain aspects of this problem.—W. N. Hallett (Cedar Crest).

4781. Wilson, E. B., & Worcester, J. The resolution of four tests. *Proc. Nat. Acad. Sci.*, 1934, 20, 189-192.—"Kelley has discussed the resolution of four tests into generals and specifics. As Kelley's conditions are complicated and do not effect the resolution by formula, except implicitly, it is worth while to obtain an explicit result." The authors do this.—W. N. Hallett (Cedar Crest).

4782. Yepsen, L. N., & Dunlap, J. W. Age and quotient slide rule. New York: Psychological Corporation, 1934. \$1.00.—Constructed to facilitate computation of CA, IQ, or MA. It can also be used to compute EQ, reading quotient, arithmetic quotient, or any other such quotients required in psychological or educational testing. Full directions are given on the reverse side of the rule.—H. Pallister (Psychological Corporation).

[See also abstract 4402.]

## MENTAL TESTS

4783. Figuerido, C. A. Contribucion al estudio de la inteligencia por la prueba de Dounaievsky y su relacion con el ambiente social y la cultura. (Contribution to the study of intelligence by the Dounaievsky test and its relation to the social and cultural environment.) *Arch. de neurobiol.*, 1932, 12, 646-654.—The Dounaievsky test (a series to complete with figures varying according to a law) was given to 494 students of schools of arts, industries, engineering, etc. A table giving the results in quartiles shows clearly the influence of the social environment and culture on the results, as well as the selection operative among the individuals prior to their direction to a certain school.—(Courtesy *Année psychol.*)

4784. Goodenough, F. L. An early intelligence test. *Child Development*, 1934, 5, 13-18.—Attention is called to what is believed to be the earliest published example of an age scale of mental development. This series of normative standards, based on the age at which various abilities develop in the average child from birth to three years, was published in 1887 by Dr. Stanford Emerson Chaille of Tulane University.—F. D. McTeer (Wayne University, Detroit).

4785. Kent, G. H. Written tests for the clinic. *J. Genet. Psychol.*, 1934, 44, 49-68.—The Kent-Shakow battery of 7 written tests has been revised both with 2-minute time limits and without (examinee changing pencils). Ratings may be derived from the fourteen separate tests or from all seven with and all seven without time limits. Median scores and norms are furnished for ages 8 to 14 inclusive, 54 to 394 individuals having been used for standardization of each; and within this range the battery may be substituted for the Stanford-Binet. Advantages of a test battery method over a composite test method are pointed out. While available as a group procedure, the Kent-Shakow battery is adapted to individual clinical use; and many suggestions are

made for approaching uniformity of subjective conditions by the clinician's adaptations and modifications of a uniform procedure to fit individual cases.—*J. F. Dashiell* (North Carolina).

4786. **Kreutz, M.** *Zmienność rezultatów testów.* (Variability of test results.) (2 vol.) Warsaw-Lwów: Książnica-Atlas, 1927; 1933. Pp. 72; 207.—A discussion of the possibilities of revising tests of memory in order to reduce their variability and increase their reliability.—*A. Wiegner* (Poznan).

4787. **Lahy, B.** *Le test des chiffres en désordre.* (A test of numbers in disorder.) *Bull. Inst. nat. orient. prof.*, 1932, 4, 73-81.—The test consisted of rearranging a table of 49 numbers in successive order. Results were measured in average time required and average variation for different periods (in groups of numbers). A first trial with 70 children gave fairly normal distribution curves. A second trial with the same children gave a correlation of .52 in one case and .39 in the other. With three groups of adults, on the other hand, the coefficients varied from .72 to .75. There is no relation between ranking on this test and that on general intelligence tests. The test, for the author, measures concentration of attention, obtained more easily in adults than in children, which accounts for the difference found in the coefficients.—(Courtesy *Année psychol.*)

4788. **Lehrer, L.** *Psychological tests.* *Unser Schul*, 1934, 4, 6-10.—A popular account of the nature of testing illustrated by the standardization of the Binet test.—*D. Shakow* (Worcester State Hospital).

4789. **Lendzion, J.** [Results of a test of "arrangement of numbers."] *Psychotechnika*, 1932, 6, 198-208.—The Schultz test, which consists of arranging in numerical order 100 metal disks, was given to 100 girls from 13 to 17 years of age. The resulting frequency curve is bimodal. When the subjects are divided into groups they may be classified as follows: very good, 10'-12%; good, 10' 30" to 12'-20%; average, 12' 30" to 15' 30"—36%; poor, 16' to 19' 30"—19%; very poor, 20' or more—13%. A table is given which shows the positive relation between short length of time and good working methods.—(Courtesy *Année psychol.*)

4790. **Lendzionówna, J.** *O stałości wyników pewnych testów.* (The constancy of results of certain tests.) *Psychotechnika*, 1933, 7, 192-196.—In a test for eye measurement, the author found the influence of practice as well as the influence of boredom in the frequent repetition of uninteresting test material. Partialing out these two factors, she found a high degree of correlation between the test applied once and as applied several times.—*H. J. Wegrocki* (Warsaw).

4791. **Maller, J. B.** *Mental ability and its relation to physical health and social-economic status.* *Psychol. Clin.*, 1933, 22, 101-107.—This study is based upon intelligence test results from all fifth grade pupils in New York City, 100,098 in number, and upon health examinations of all Grade I and kinder-

garten pupils, numbering 140,230. 579 schools and 300 health neighborhoods are involved. Enormous differences in results from different schools and different neighborhoods show how fallacious it is to draw conclusions about the school population from studies made in a single school or neighborhood. When the average intelligence ratings of the various schools are correlated with the percentage of pupils in each having no physical defect, the resulting correlation coefficient is .5. A coefficient of .5 is also obtained when average IQ's of neighborhoods are correlated with their economic status. Mental ability is found to correlate negatively with death rate, infant mortality, juvenile delinquency, and birth rate. Measures of intelligence, health, character, and economic status were all studied together, and an analysis of intercorrelations between them indicated the presence of a common factor. This factor, the author suggests, may be regarded as the developmental status of the group or neighborhood.—*J. T. Metcalf* (Vermont).

4792. **Merry, R. V., & Merry, F. K.** *The finger maze as a supplementary test of intelligence for blind children.* *J. Genet. Psychol.*, 1934, 44, 227-230.—The Miles high-relief multiple-T maze with 30 children, aged 8 to 16 years and with IQ's from 81 to 146, produced scores correlating fairly well with MA (.54, .54, and .61). High intercorrelations were obtained between trials, errors, and time scores.—*J. F. Dashiell* (North Carolina).

4793. **Mowrer, W. M. C.** *Performance of children in Stutsman tests.* *Child Development*, 1934, 5, 93-96.—Data are presented showing the performance of 83 children, age 24 to 64 months, on each of 18 items selected from the Merrill-Palmer Scale.—*F. D. McTeer* (Wayne University, Detroit).

4794. **Noll, V. H.** *Measuring scientific thinking.* *Teach. Coll. Rec.*, 1934, 35, 685-693.—A description is given of a test of 134 items—true-false and multiple choice—to test six habits of thinking: accuracy, suspended judgment, open-mindedness, intellectual honesty, criticalness, and the habits of looking for true cause-and-effect relationships. Statistical data obtained from giving the test of 383 students of grades 8 to 12 are to be reported elsewhere. The bibliography lists 30 titles.—*J. M. Stalnaker* (Chicago).

4795. **Piéron, H.** *Quelques données sur un test pour l'épreuve de hauts niveaux d'intelligence.* (Some data on a test to estimate high levels of intelligence.) *Bull. Inst. nat. orient. prof.*, 1932, 4, 1-5.—The test for superior adults presented by the author consists of three problems to solve, one of logical relations, the second of verbal translation, the last of practical ingenuity. Unlimited time is allowed. Applied to a number of intellectuals in the professions and to students, it is found to be a little too easy, a relatively large number of subjects reaching the maximum score. The third question, which is scored only as "all or none," does not allow for a sufficiently fine differentiation among subjects. Although it needs modification, this test shows the possibility of measuring the higher intellectual levels



without using the element of speed.—(Courtesy *Année psychol.*)

4796. Rüdiger, J. *Testreihe zur Untersuchung der Intelligenz fünf- bis sechsjähriger Kinder.* (A series of tests for measuring the intelligence of five- to six-year-old children.) *Arch. f. d. ges. Psychol.*, 1934, 90, 167-186.—Wreschner's tests for six- to seven-year-olds are shown to be unsuitable for the fifth-year level. By changing the instructions and the method of scoring, they have been adapted for use with five-year-olds and standardized on 50 subjects. Rank order intercorrelations for the six tests are given. It is concluded that the intelligence of young children and that of adults differs in degree only and that the same method can be used for testing intelligence at all ages.—E. L. Kelly (Connecticut State).

4797. Segel, D. *The construction and interpretation of differential ability patterns.* *J. Exper. Educ.*, 1934, 2, 283-287.—The author describes a method for showing graphically test results from which, by inspection, a rough determination of differential success prediction may be made. Evidence is presented which shows that this method gives results in accordance with the more vigorous statistical methods of differential prediction.—H. W. Karn (Clark).

4798. Thomas, R. *The standardization for Perth, W. A., of the Sydney Teachers' College Group Scale.* *Australas. Council Educ. Res. Ser.*, 1934, No. 22, 53-70.—The Phillips Group Scale of Mental Ability was administered to 5900 children in Perth, Western Australia. The group tested constituted a representative school population. Norms for each age and class were established by the investigation. No significant sex differences were found in the test scores. The results indicated that the higher social group was consistently and significantly superior to the lower social group.—S. H. Newman (Clark).

4799. Wallin, J. E. W. *Further data on the Stanford-Binet VIII- and IX-year tests.* *Psychol. Clin.*, 1933, 22, 94-100.—Comparing his own results with those of Madden and of Stoke, the author concludes that the Stanford-Binet scale at the VIII- and IX-year levels is in need of complete revision. He finds a significant difference between the results from younger-brighter and older-duller children, and thinks it reasonable to conclude that the Stanford-Binet scale is a less valid measure of intelligence for adults than for children.—J. T. Metcalf (Vermont).

[See also abstracts 4440, 4465, 4682, 4734, 4755, 4780, 4781.]

#### CHILDHOOD AND ADOLESCENCE

4800. Anderson, H. H. *The attendance of nursery school children.* *Child Development*, 1934, 5, 81-88.—Consideration of the attendance records of the Iowa Child Welfare Station for the year 1930-1931 (103 children) and comparisons with records of other schools and other years indicates that the average daily nursery school attendance is about 81% of the school's enrollment. Of all absences 55% are due to common colds; the next most frequent cause of

infection is ear infection and mastoiditis.—F. D. McTeer (Wayne University, Detroit).

4801. Batalla, M. B. *An experimental study of children's behavior in a spatial complex.* *J. Genet. Psychol.*, 1934, 44, 127-138.—A life-size maze for children, adapting the general plan of the Hsaio and the Tolman and Honzik 3-alley maze for testing insight, was used with 144 children aged 30-143 months in six series of experiments. Tabulation of the frequencies with which the different kinds of runs were made (returning a second time to locked door through a different path; going to locked door first then taking path 3 directly; going directly by path 3) for the different groups of children. Younger children were found to perform actually better than older, and those of lower M.A. better than those of higher. All in all, the data are regarded as compatible with theories of learning by conditioning or by piecemeal acquisition.—J. F. Dashiell (North Carolina).

4802. Beebe, E. L. *Motor learning of children in equilibrium in relation to nutrition.* *Genet. Psychol. Monog.*, 1934, 15, 99-243.—Five boys and five girls (mean age 4 years 8 months) served as reactors for this experiment. The learning consisted of learning to maintain equilibrium on a balancing board. Because the number of subjects is small the author is guarded in her statement of conclusions. Results are analyzed as follows: age differences, sex differences, sidedness, control of foot position, control of visual cues, blindfolding, eye fixation, retention of skill, control of attention, qualitative differences in reactions, reliability, relation of results to other data. The literature is reviewed and 149 titles are included in the bibliography.—F. M. Teagarden (Pittsburgh).

4803. Boynton, P. L., & Lowe, P. E. *The developmental age of industrial school boys.* *Child Development*, 1934, 5, 59-62.—When the scores of 90 boys in the sixth, seventh, and eighth grades of the Tennessee Industrial School on the Furfey Revised Scale for Measuring Developmental Age in Boys and on the Otis Self-Administering Test of Mental Ability, Intermediate Examination, were compared, a correlation of .33 was obtained. With chronological age partialled out this correlation became .47; this finding is contrary to Furfey's contention that developmental age as measured by his scale is relatively non-intellectual and hence independent of mental age.—F. D. McTeer (Wayne University, Detroit).

4804. Bridges, K. M. B. *Measuring emotionality in infants. A tentative experiment.* *Child Development*, 1934, 5, 36-40.—"An attempt was made to measure emotionality in infants by taking records of the duration and frequency of emotional reactions during ten one-hour observation periods scattered over a month." Twelve children ranging from 11 to 21 months of age were observed, and the records tabulated under two classifications, one for all forms of distress, and the other for all forms of delight or enjoyment. "The results showed all possible variations," ranging from apathy in some infants to long and frequent outbursts of both distress and delight

in others.—*F. D. McTeer* (Wayne University, Detroit).

4805. *Brigance, W. N.* The language learning of a child. *J. Appl. Psychol.*, 1934, 18, 143-154.—Language development of the author's child through the first 36 months is described, showing the growth of vocabulary, the comparison of parts of speech, and the growth of the ability to master the phonetic sounds.—*R. S. Schultz* (Psychological Corporation).

4806. *De Feo, G.* Quand et comment les jeunes fréquentent le cinéma. (When and how children frequent the cinema.) *Rev. Inst. du cinéma éduc.*, 1932, 4, 865-874; 944-955.—A statistical study made in Italy shows that, as children grow older, they tend to frequent pictures of a higher quality. In regard to frequency, the older they become the more they go to the cinema. The boys (70.3%) are more assiduous than the girls (29.7%). The maximum frequency is furnished by the children of intellectual workers, and the minimum by children of the laboring class. In large cities the children are usually accompanied by their parents, while in small localities they go alone. The idea of the educational value of the films predominates.—(Courtesy *Année psychol.*)

4807. *Dennis, W.* The age of walking of children who run on all fours. *Child Development*, 1934, 5, 92-93.—A tabulation of Hrdlička's data from the book *Children Who Run on All Fours* shows that the children described walk alone at an average age of 12.97 months. Since the average age of walking given by various investigators ranges from 12.77 months to 13.47 months, it appears that Hrdlička was mistaken in his contention that the habit of running on all fours produced a delay in the onset of walking.—*F. D. McTeer* (Wayne University, Detroit).

4808. *Dybowski, M.* O sposobie obserwowania dzieci. (On the observation of children.) *Kwart. Psychol.*, 1934, 5, 126-153.—The systematic observation of two children by the comparative method suggested by Stern and Lasurski and a discussion of the various methods employed in obtaining a total picture of the behavior of children.—*T. M. Abel* (Sarah Lawrence).

4809. *Engelhardt, G.* Spirometrische und phonetische Untersuchungen an 6-14 jährigen Kindern. (Spirometric and phonetic investigations on 6-14-year-old children.) Radebeul-Dresden: Kupky & Dietze, 1934. Pp. 20.—*R. R. Willoughby* (Clark).

4810. *Felhorska, F., & Studencki, S. M.* Plany i marzenia młodzieży o przyszłości. (Plans and daydreams of youth about the future.) Warsaw-Lwów: Książnica-Atlas, 1933. Pp. viii + 272. 15 zloty (paper).—A questionnaire study of over 8000 school children in Poland. Differences in interests and abilities between the sexes and between rural and urban children are revealed.—*S. Blachowski* (Poznan).

4811. *Friedmann, A.* Kind der Krise. (A child of the crisis.) *Int. Zsch. f. Individ.-psychol.*, 1934, 12, 47-49.—Review of the 3-year record of a young girl in a special school. An adopted child, she could not read at the age of 11½. Tendencies to lying, stealing,

and sex transgressions were present. She prefers to play with young children and animals. It is suggested that there may be "some sort of mental defect," but this by implication was not considered an important problem. Much progress in personality reorganization was made, and some school progress. No age norms were applied or reported. Social adjustment, the adequacy of which is determined by common sense, is the basic goal.—*O. N. de Weerd* (Beloit).

4812. *Giddings, G.* Normal sleep pattern for children. *J. Amer. Med. Asso.*, 1934, 102, 525-529.—The electrically recording hypnograph was used for measuring motility during sleep. Subjects were 28 children aged 9 to 14 years and equally divided as to sex. The drinking of 6 ounces of warm milk at bedtime tended to reduce sleep motility. Drinking a beverage containing three-fifths grain of caffeine produces no more restlessness than drinking an equal amount of orange juice. Taking a large amount of food at the evening meal increased restlessness markedly. Neither warm nor cold baths before retiring had a constant effect on sleep. Sleep is definitely quieter in cold weather than in hot.—*D. J. Ingle* (Minnesota).

4813. *Hollingworth, L. S., & Martens, E. H.* Selected references from the literature on exceptional children. *Elem. School J.*, 1934, 34, 698-705.—The compilers list and annotate 42 references from the literature on exceptional children.—*P. A. Witty* (Northwestern).

4814. *Hurlock, E. B., & Jansing, C.* The vocational attitudes of boys and girls of high-school age. *J. Genet. Psychol.*, 1934, 44, 175-191.—A questionnaire asking for (1) the vocation most desired, (2) the one most likely to be followed, and (3) the one desired for the child by his parents, with reasons in all cases, was used with several hundred negroes, and whites of different classes (technical middle class, technical with foreign parentage, academic, academic with foreign parentage, and country). Tabulated percentages for the different types show most frequent preferences by boys to be engineering, with aviation and farming following, and by girls to be teaching and then business. The reason most given by both was "like it," with money and personal fitness second with boys and girls respectively. Apparently the modern parent is interested in the vocations of both boy and girl, urging on the former the money argument and on the latter the fitness argument. Over three-fourths of the boys chose vocations other than their parents'. Scholastic achievement had little bearing on vocational choice.—*J. F. Dashiell* (North Carolina).

4815. *Hurlock, E. B., & Klein, E. R.* Adolescent "crushes." *Child Development*, 1934, 5, 63-80.—The data derived from anonymous questionnaires filled out by 114 teachers, 95 camp counselors, and 350 adolescent and college-age pupils indicate that "most adolescents have one or more crushes upon people of approximately their own age but of opposite sex." These crushes usually last from one month to three years. "They are more prevalent among girls than

among boys, and where they are homosexual in their expression, it is among girls almost entirely." The authors draw the conclusion that modern urban environment and education tend to direct the adolescent toward heterosexual fixations rather than toward the old-fashioned teacher or counselor crush.—*F. D. McTeer* (Wayne University, Detroit).

4816. *Kuchta, J. Dziecko-włoczęga.* (The child hobo.) Warsaw: Arct, 1933. Pp. 172. 6 zloty (paper).—Case studies of child hoboes observed over a two-year period in Krakow. An attempt was made to distinguish psychological and sociological types. The tendency to roam is considered a compensation phenomenon.—*S. Blachowski* (Poznan).

4817. *Kwint, L. Ontogeny of motility of the face.* *Child Development*, 1934, 5, 1-12.—Investigations of the ability of 476 children, ages 4 to 16 years, to reproduce described and demonstrated facial expressions give ample evidence that the extent of facial motility increases with age up to 14 years. "Most of the separate movements of the mimic musculature show a clear tendency to maturation at definite age periods." There is also evidence of a correlation between intelligence and mimic motility.—*F. D. McTeer* (Wayne University, Detroit).

4818. *Lane, H. A. Forgotten children.* *Educ. Trends*, 1934, 3, 14-19.—Studies of the educational background of delinquent boys lead the author to conclude that in the future the school must extend its responsibility for fostering the development of young children and increase its skill and interest in the early detection and treatment of faulty adjustment.—*H. W. Karn* (Clark).

4819. *Lord, E. The intelligence and education of children handicapped by cerebral palsy.* *J. Genet. Psychol.*, 1934, 44, 223-226.—Three cases are described as a contribution to the much needed clinical-educational information on these children, who are frequently not correctly diagnosed—due partly to over-emphasis on power of verbalization—with consequent injustice to child and teacher.—*J. F. Dashiell* (North Carolina).

4820. *Mathews, S. M. The effect of mothers' out-of-home employment upon children's ideas and attitudes.* *J. Appl. Psychol.*, 1934, 18, 116-136.—A comparison was made of 100 children whose mothers worked with 100 children of non-working mothers on the basis of a special "Home Blank." Significant differences were found between these two groups in home conditions and somewhat less extensive ones in attitudes. The results seem to indicate that children whose mothers work, although at a disadvantage in many home conditions, adjust favorably in attitude toward conditions in general.—*R. S. Schultz* (Psychological Corporation).

4821. *Olson, W. C., & Cunningham, E. M. Time sampling techniques.* *Child Development*, 1934, 5, 41-58.—The writers have here brought together and summarized the studies printed in English which contain descriptions, adaptations, evaluations, or general discussions of the time sampling technique.

There is a bibliography of 76 titles.—*F. D. McTeer* (Wayne University, Detroit).

4822. *Osipova, E. A. [The question of the significance of the age factor in psychic disturbances in the preschool age.]* *Sovet. neuropatol.*, 1932, No. 8, 377-384.—Increased reactivity and simultaneous plasticity of the psychoneural organization of the preschool child makes him very sensitive to the influence of his environment. Bad environment is more dangerous at this age, provoking negative structural changes of character. But the same plasticity and the age tendency to strong psychic growth help to exterminate the reactive neuroses and increase the effect of therapeutic-pedagogic measures in the preschool age in comparison with the later ages.—*A. Yarmolenko* (Leningrad).

4823. *Pratt, K. C. The effects of repeated auditory stimulation upon the general activity of newborn infants.* *J. Genet. Psychol.*, 1934, 44, 96-116.—Infants placed upon a stabilimeter (a padded platform the movements of which were communicated by levers to a polygraph and to electric counters) were subjected to a noise produced by an electromagnet plunger striking a tin can at 10, 30, or 60 second intervals. After an adaptation period, a control (or experimental) period was immediately followed by an experimental (or control) period. Recordings of oscillations by polygraph and by counters agreed in showing: (1) greater activity during the experimental (stimulation) periods; (2) this difference greater in one kind of physiological condition (dry and asleep) than in others (wet or awake); (3) the amount of activity greater in the last-mentioned conditions—in fact, the role of auditory stimulation was insignificant as compared to the physiological state. Amount of activity was less for the more frequently repeated stimulations—but no choice is made of adaptation, fatigue, or inhibition theories. The responses to auditory stimulation were found in all degrees of localization and of complexity.—*J. F. Dashiell* (North Carolina).

4824. *Pratt, K. C. The effects of repeated visual stimulation upon the activity of newborn infants.* *J. Genet. Psychol.*, 1934, 44, 117-126.—Infants on a stabilimeter were subjected to flashes of light from a 75-watt bulb at 10, 30, and 60 second intervals. Control and experimental periods were arranged as in the study on auditory stimulation (see VIII:4823). No significant difference was observed between activity in control and in stimulation periods; or between activity under frequently as compared with infrequently repeated stimulations; but activity was doubled under the condition "wet" as compared with "dry." In general, then, there was no significant change in measurable activity produced by visual stimuli. Some slight evidence appeared of response of the Moro type to the first one or two stimuli.—*J. F. Dashiell* (North Carolina).

[See also abstracts 4483, 4563, 4590, 4593, 4606, 4614, 4616, 4619, 4629, 4640, 4652, 4653, 4662, 4663, 4681, 4682, 4687, 4702, 4734, 4753, 4754, 4796.]



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